

2,000

Feet

1 inch = 2,000 feet

Tennessee State Plane (feet) 4100lips
North American Datum 1983



Topographic Map

I-75 Expansion and Improvements Project

Chattanooga, TN




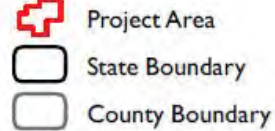
Project Area

BARGE
CONSTRUCTION SOLUTIONS

Date: 15 April 2019

Page 1 of 37



<p>1,250 Feet</p> <p>1 inch = 1,250 feet Tennessee State Plane (feet) 4100lips North American Datum 1983</p>		<p>Project Location Map</p> <p>I-75 Expansion and Improvements Project</p> <p>Chattanooga, TN</p>	
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File Path: \\corp.bwsc.net\data\Projects\36\36908\3690800\03_PROJECT_EXECUTION\ENR\Natural Resources\Maps\Project Location Updated.mxd

File No. LRN-2019-00480

July 12, 2019

I-75 at I-24 Interchange Modification

TDOT PIN 114174.00

REVISED WETLAND IMPACT TABLE

-Table 2- Wetlands in Project Impact Area I-75 at I-24 Interchange Modification						
Waterbody I.D.	Description	Delineated Acreage	Estimated Permanent Impact (Acres)	Estimated Temporary Impact (Acres)	Comments	Latitude/Longitude
WTL-1*/	PEM/PFO	18.96	4.39	0.95	ETW – WTL-1 and WTL-2 are contiguous	34.994312, -85.206223
WTL-2*						34.994563, -85.206365
WTL-3*	PFO	1.89	0.43	0.19	ETW	35.001890, -85.212824
WTL-4	PEM	5.25	0.52	0.32		34.998199, -85.209971
WTL-5	PEM	2.36	2.20	0.02		35.005302, -85.209727
WTL-6	PEM	9.79	1.33	0.75		35.008458, -85.200331
WTL-7	PSS	0.51	0.51	0		35.003736, -85.211288
WTL-8	PFO	3.21	0.00	0		n/a
Total		41.97	9.38	2.23		

File No. LRN-2019-00480
 I-75 at I-24 Interchange Modification
 TDOT PIN 114174.00

July 12, 2019

REVISED STREAM IMPACT TABLE

-Table 3- Streams in Project Impact Area I-75 at I-24 Interchange Modification					
Waterbody I.D.	Description	Estimated Permanent Impact (Square Foot/Acre)	Estimated Permanent Impact (Linear Feet)	Estimated Temporary Impact (Square Foot/Acre)	Latitude/Longitude
STR-1	Perennial Stream	0	0	0	n/a
STR-2	Perennial Stream	0	295	2515/0.058	35.007779, -85.201745
STR-3	Perennial Stream	3594/0.082	180	3629/0.084	35.001277, -85.211335
STR-4	Intermittent Stream	0	0	0	n/a

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GEOMETRIC LAYOUT.....	2B
RIGHT-OF-WAY NOTES, UTILITY NOTES, UTILITY OWNERS.....	3
PROPERTY OWNERS and PROPERTY MAP.....	
PRESENT LAYOUTS.....	4 - 18
PROPOSED LAYOUTS.....	4A - 18A
PROPOSED PROFILES.....	4B - 15B, 9C - 10C
RAMP PROFILES.....	19 - 44
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ROADWAY CROSS SECTIONS.....	57-324
RETAINING WALL SHEETS.....	R01-R21
BRIDGE SHEETS.....	B01-B35

NOTE: THE ALPHABETICAL LETTERS "I", "J" & "Q" ARE NOT USED IN NUMBERING OF SHEETS.

STATE OF TENNESSEE DEPARTMENT OF TRANSPORTATION BUREAU OF ENGINEERING

HAMILTON COUNTY

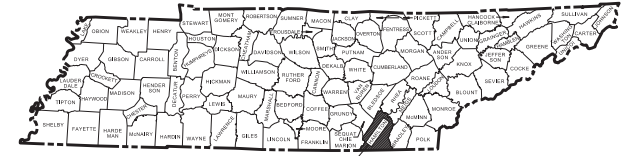
INTERSTATE 75,
INTERCHANGE AT
INTERSTATE 24

DESIGN BUILD PROPOSAL PLANS

STATE HIGHWAY NO. I-75 F.A.H.S. NO. I-75

TENN.	YEAR	SHEET NO.
	2019	1
FED. AID PROJ. NO.	IM/NH-75-1(131)	
STATE PROJ. NO.	33005-1185-44	

DESIGN BUILD PROJECT



PROJECT LOCATION

NO EQUATIONS

NO EXCLUSIONS

CAUTION !
DESIGN-BUILD
DEFINITIVE
DESIGN PLANS
SUBJECT TO
CHANGE

SEALED BY

33005-1185-44
END PROJECT NO. IM/NH-75-1(131) PRELIM.
STA. 443+85.00 INTERSTATE 75
N: 247594.2462 E: 2210778.1747

LIMIT OF WORK
INTERSTATE 24
N: 245259.7761 E: 2202212.6559

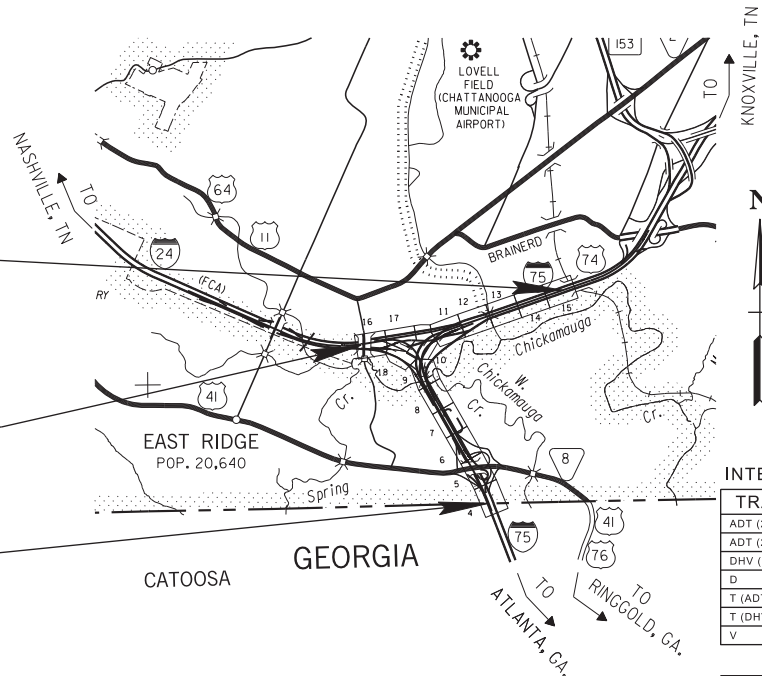
44330-1185-44
BEGIN PROJECT NO. IM/NH-75-1(131) PRELIM.
STA. 303+51.97 INTERSTATE 75
N: 238539.1748 E: 2207642.6817

SPECIAL NOTES

PROPOSALS MAY BE REJECTED BY THE COMMISSIONER IF ANY OF THE UNIT PRICES CONTAINED THEREIN ARE OBVIOUSLY UNBALANCED, EITHER EXCESSIVE OR BELOW THE REASONABLE COST ANALYSIS VALUE.

THIS PROJECT TO BE CONSTRUCTED UNDER THE STANDARD SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION DATED JANUARY 1, 2015 AND ADDITIONAL SPECIFICATIONS AND SPECIAL PROVISIONS CONTAINED IN THE PLANS AND IN THE PROPOSAL CONTRACT.

TDOT C.E. MANAGER 1 OR
TDOT TRANSPORTATION MANAGER 1: LIA OBAID, P.E.
DESIGNED BY: BARGE DESIGN SOLUTIONS, INC.
DESIGNER: JONATHAN HAYCRAFT, P.E.
P.E. NO. 44330-1185-44 (NEPA)
PIN NO. 114174.00



SCALE: 1"= 1/2 MILE

0 0.5 1.0 1.5 MILES

INTERSTATE 24

TRAFFIC DATA	
ADT (2021)	118410
ADT (2041)	146100
DHV (2041)	13465
D	50 - 50
T (ADT)	18 %
T (DHV)	12 %
V	60 MPH

INTERSTATE 75

SURVEY 09-05-17	TRAFFIC DATA	
	ADT (2019)	101260
	ADT (2039)	127360
	DHV (2039)	12067
	D	53 - 47
	T (ADT)	18 %
	T (DHV)	12 %
	V	50 MPH

STATE PLANE COORDINATES ARE BASED ON GPS MEASUREMENTS OBTAINED 05-20-17 USING GEOID 12B MODEL AND DATUM ADJUSTMENT FACTOR OF 0.99998

APPROVED: *Paul D. Degges*
PAUL D. DEGGES, CHIEF ENGINEER

DATE:

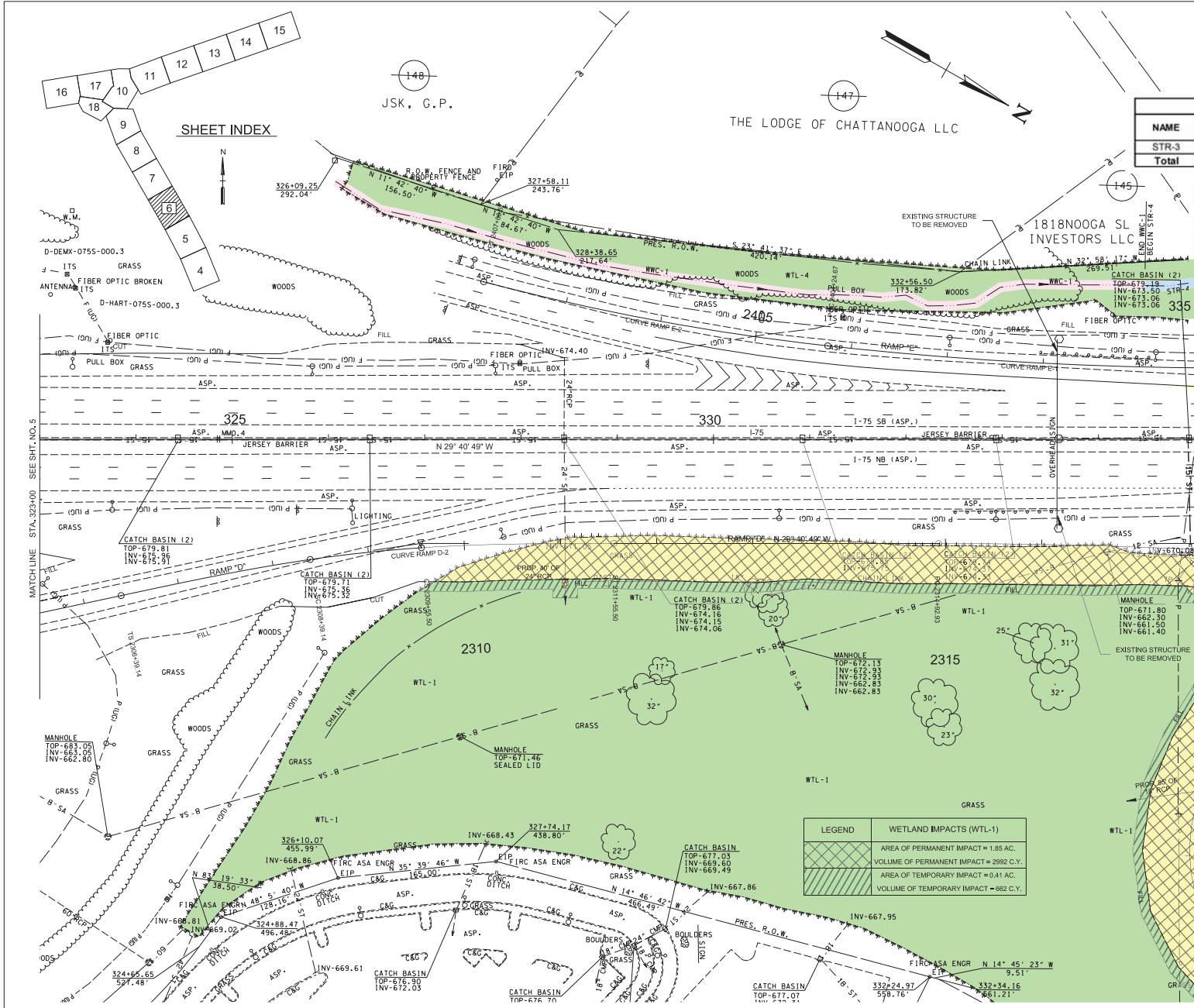
APPROVED: *Clay Bright*
CLAY BRIGHT, COMMISSIONER

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR

DATE



TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIM.	2019	IM/NH-75-1(131)	6

STREAM IMPACTS				
NAME	EXISTING	PROPOSED	TOTAL	
STR-3	128	52	180	
Total	128	52	180	

TEMPORARY (S.F./ACRE)	PERMANENT (S.F./ACRE)
4570/0.105	776/0.018
4570/0.105	776/0.018

WETLAND IMPACTS			
NAME	AREA (ACRES)	VOLUME (C.Y.)	
	TEMPORARY	PERMANENT	
WTL-1	0.41	1.85	662
WTL-2	0.54	2.54	874
WTL-3	0.19	0.43	314
WTL-4	0.32	0.52	520
WTL-5	0.02	2.20	32
WTL-6	0.75	1.33	1208
WTL-7	0	0.51	0
WTL-8	0	0	0
Total	2.23	9.38	3610

CAUTION!
DESIGN-BUILD
DEFINITIVE
DESIGN PLANS
SUBJECT TO
CHANGE

SEALED BY

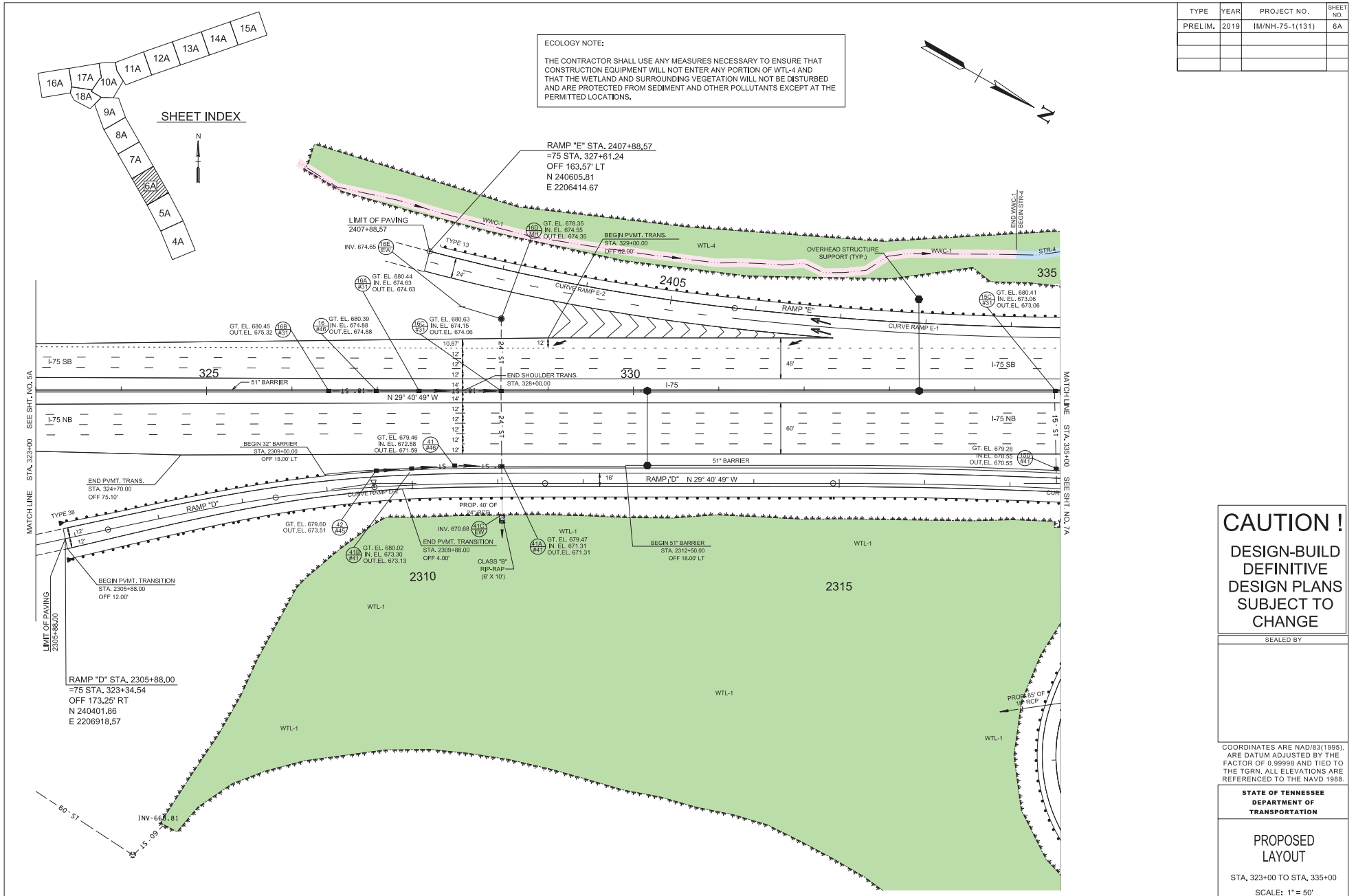
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ARE DATUM ADJUSTED BY THE
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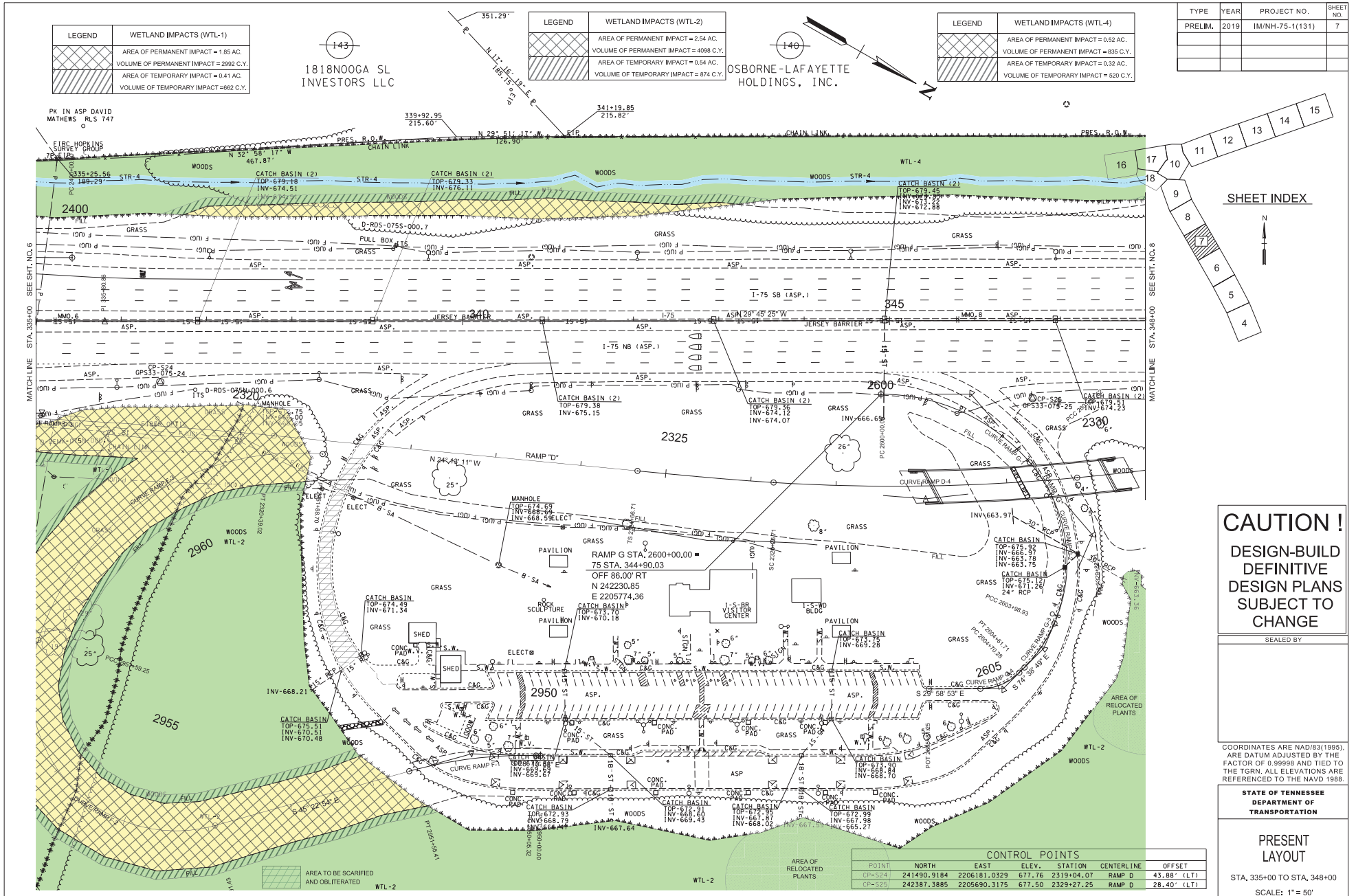
STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

PRESENT
LAYOUT

STA. 323+00 TO STA. 335+00

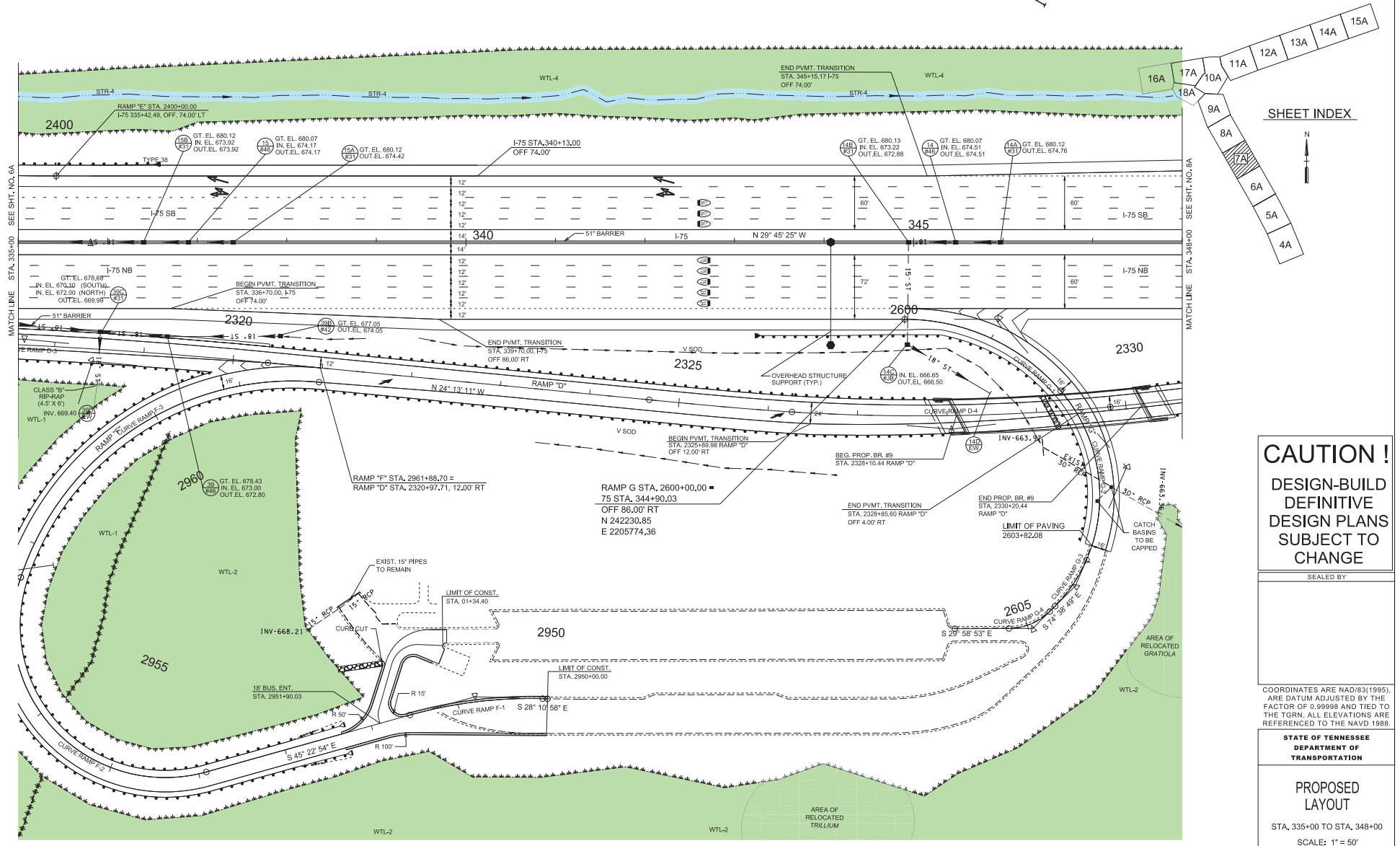
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NOTE: SEE RETAINING WALL LAYOUT SHEETS FOR WALL ALIGNMENTS.

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PRELIM.	2019	IM/NH-75-1(131)	7A

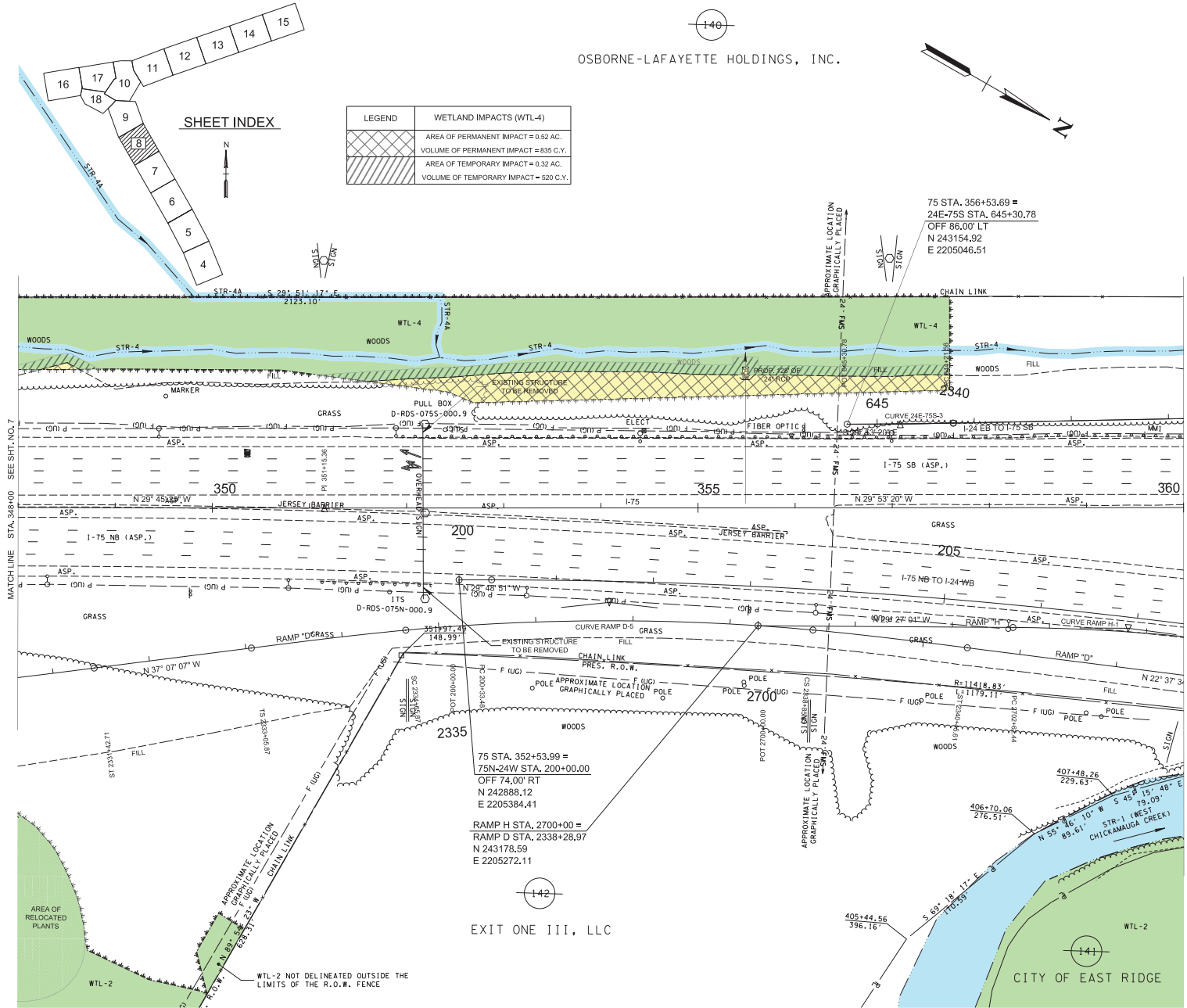


TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIM.	2019	IM/NH-75-1(131)	8

OSBORNE-LAFAYETTE HOLDINGS, INC.

SHEET INDEX

LEGEND	WETLAND IMPACTS (WTL-4)
	AREA OF PERMANENT IMPACT = 0.52 AC.
	VOLUME OF PERMANENT IMPACT = 835 C.Y.
	AREA OF TEMPORARY IMPACT = 0.32 AC.
	VOLUME OF TEMPORARY IMPACT = 520 C.Y.



CAUTION !
DESIGN-BUILD
DEFINITIVE
DESIGN PLANS
SUBJECT TO
CHANGE

SEALED BY

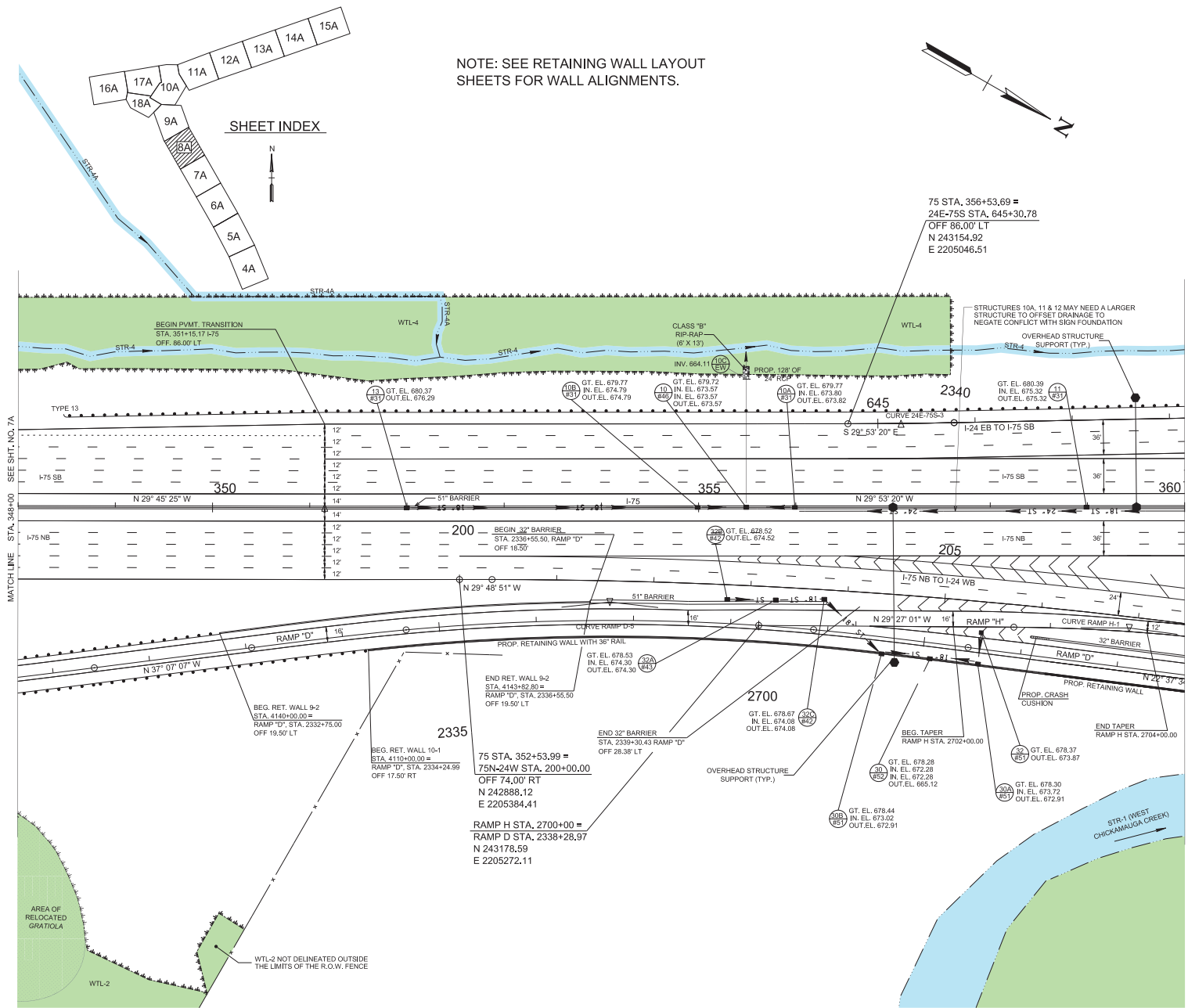
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FACTOR OF 0.99998 AND TIED TO
THE TGRN. ALL ELEVATIONS ARE
REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

PRESENT
LAYOUT

STA. 348+00 TO STA. 360+00
SCALE: 1" = 50'

TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIM.	2019	IM/NH-75-1(131)	8A



CAUTION !
DESIGN-BUILD
DEFINITIVE
DESIGN PLANS
SUBJECT TO
CHANGE

SEALED BY

COORDINATES ARE NAD(83)(1995).
ARE DATUM ADJUSTED BY THE
FACTOR OF 0.99998 AND TIED TO
THE TGRN. ALL ELEVATIONS ARE
REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

PROPOSED
LAYOUT

STA. 348+00 TO STA. 360+00
SCALE: 1" = 50'



RFC
DESIGN
REVIEW

RFC DESIGN REVIEW

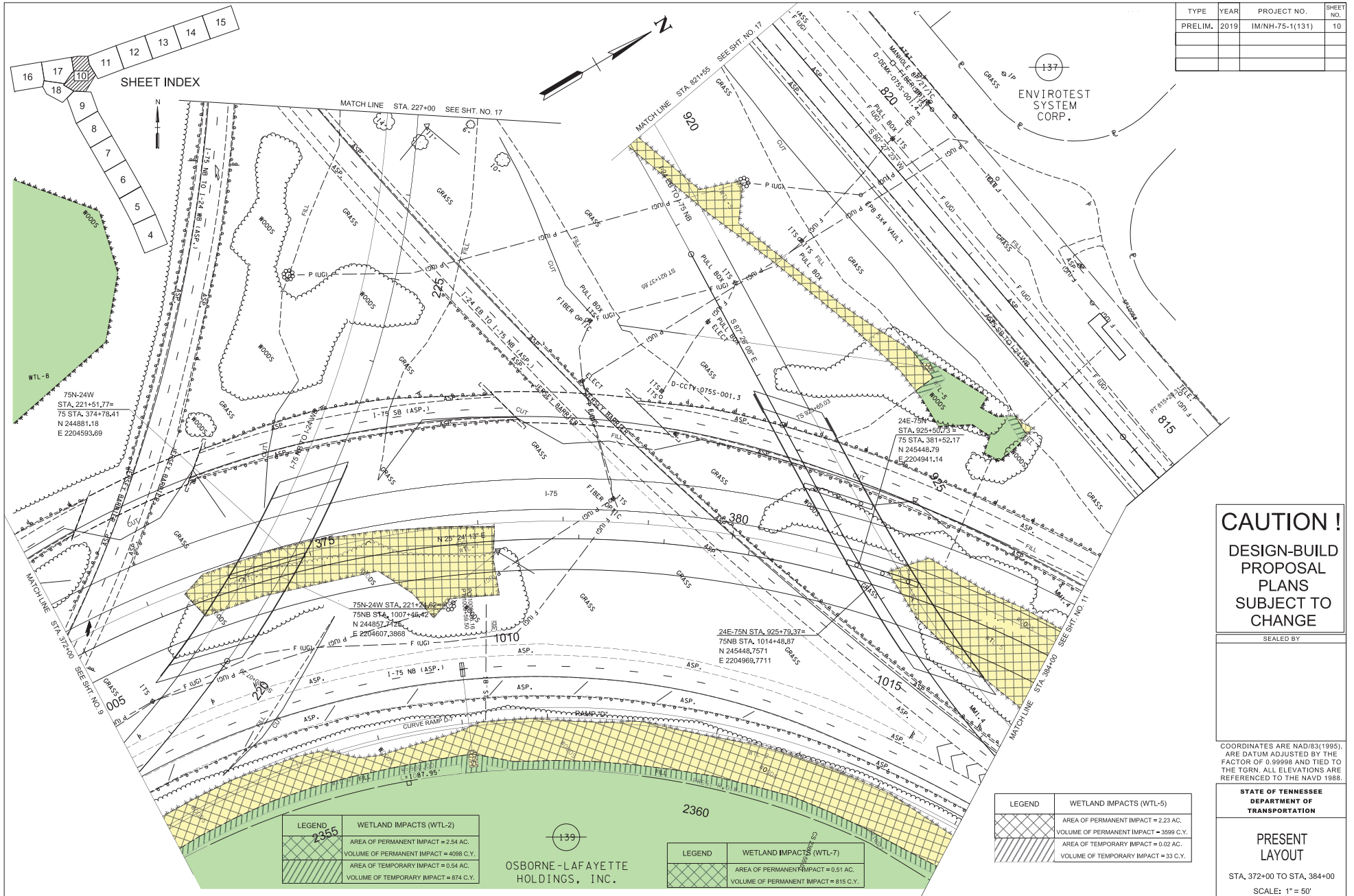
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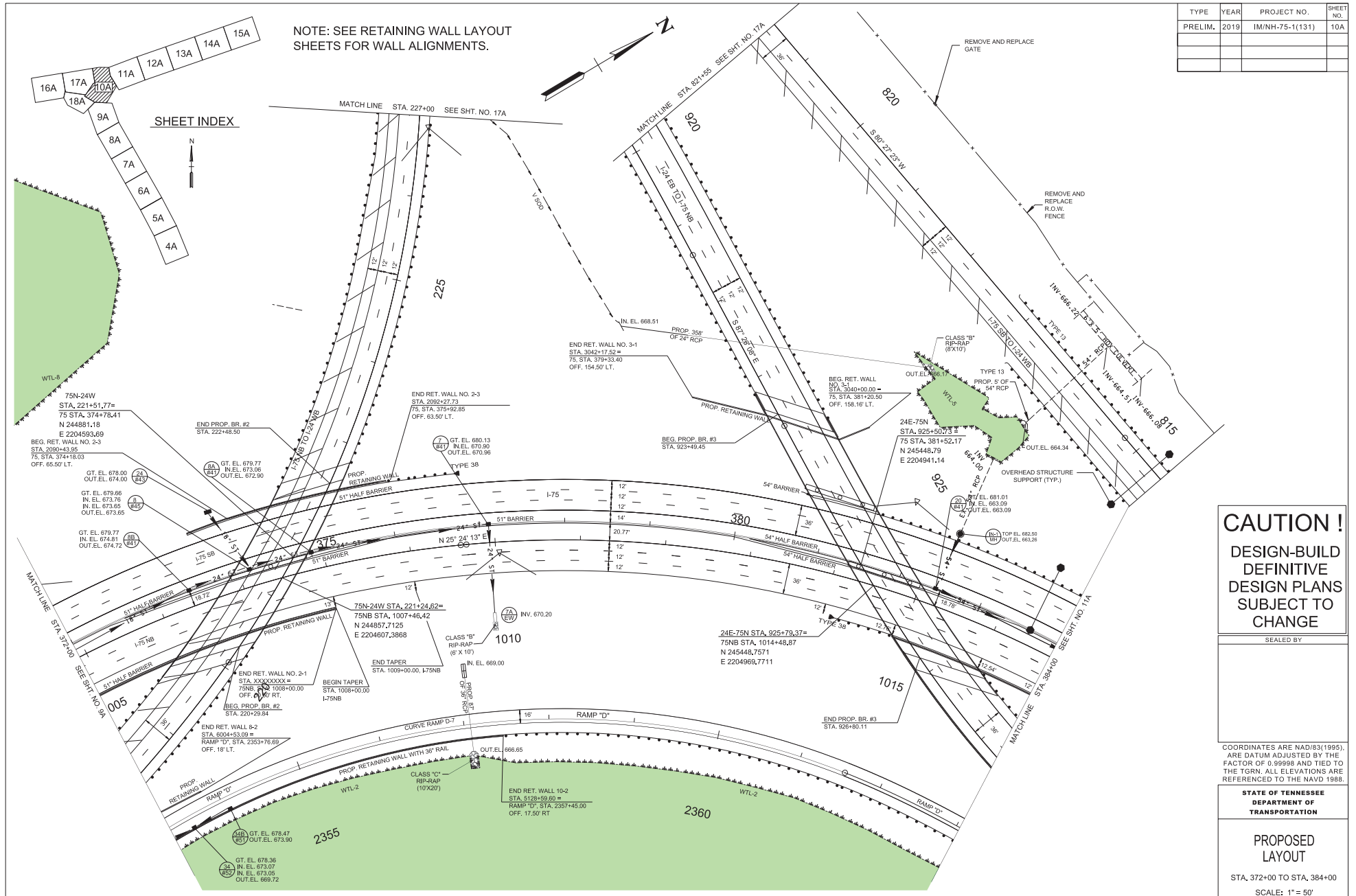
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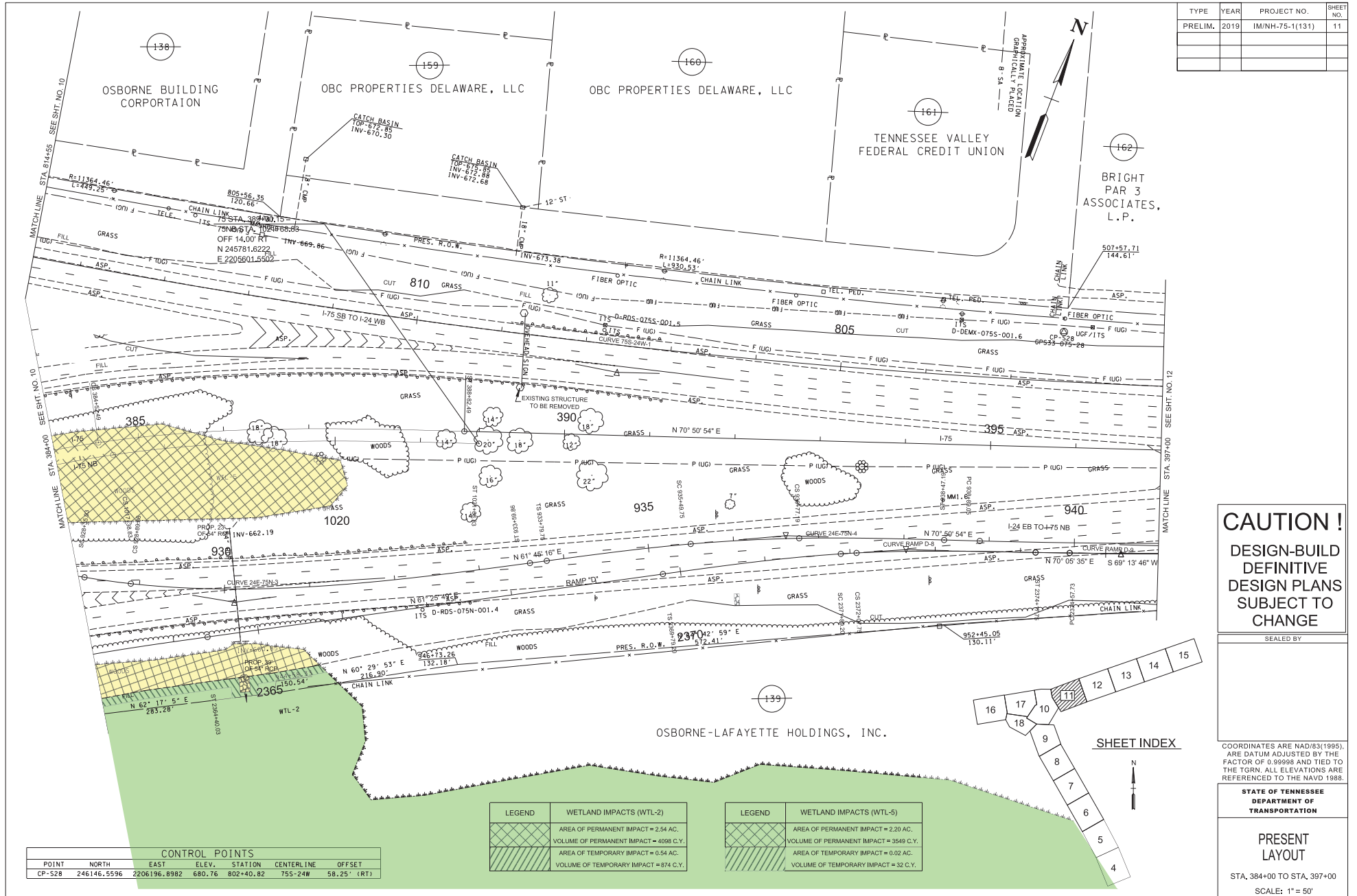
STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

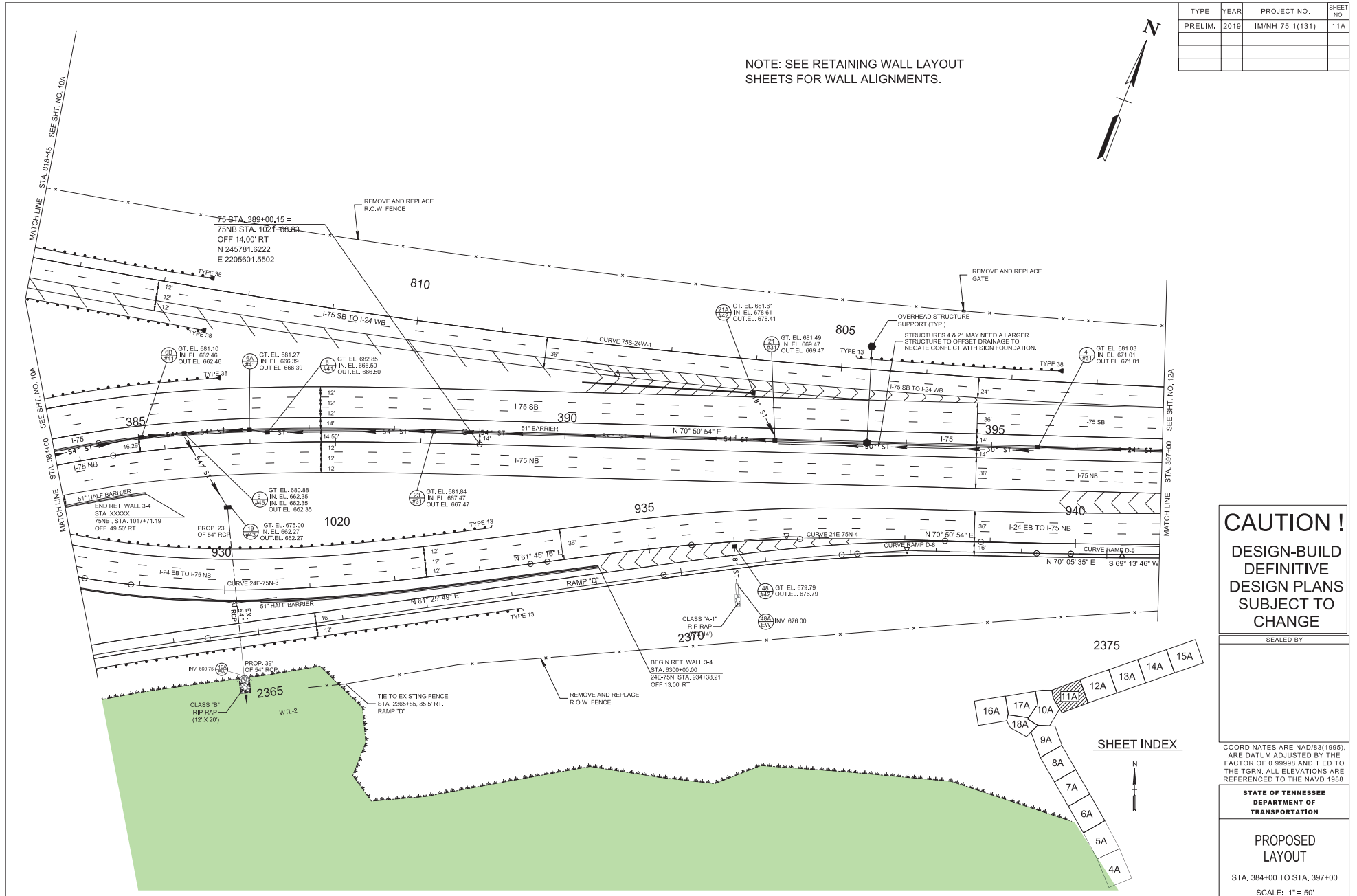
PROPOSED LAYOUT

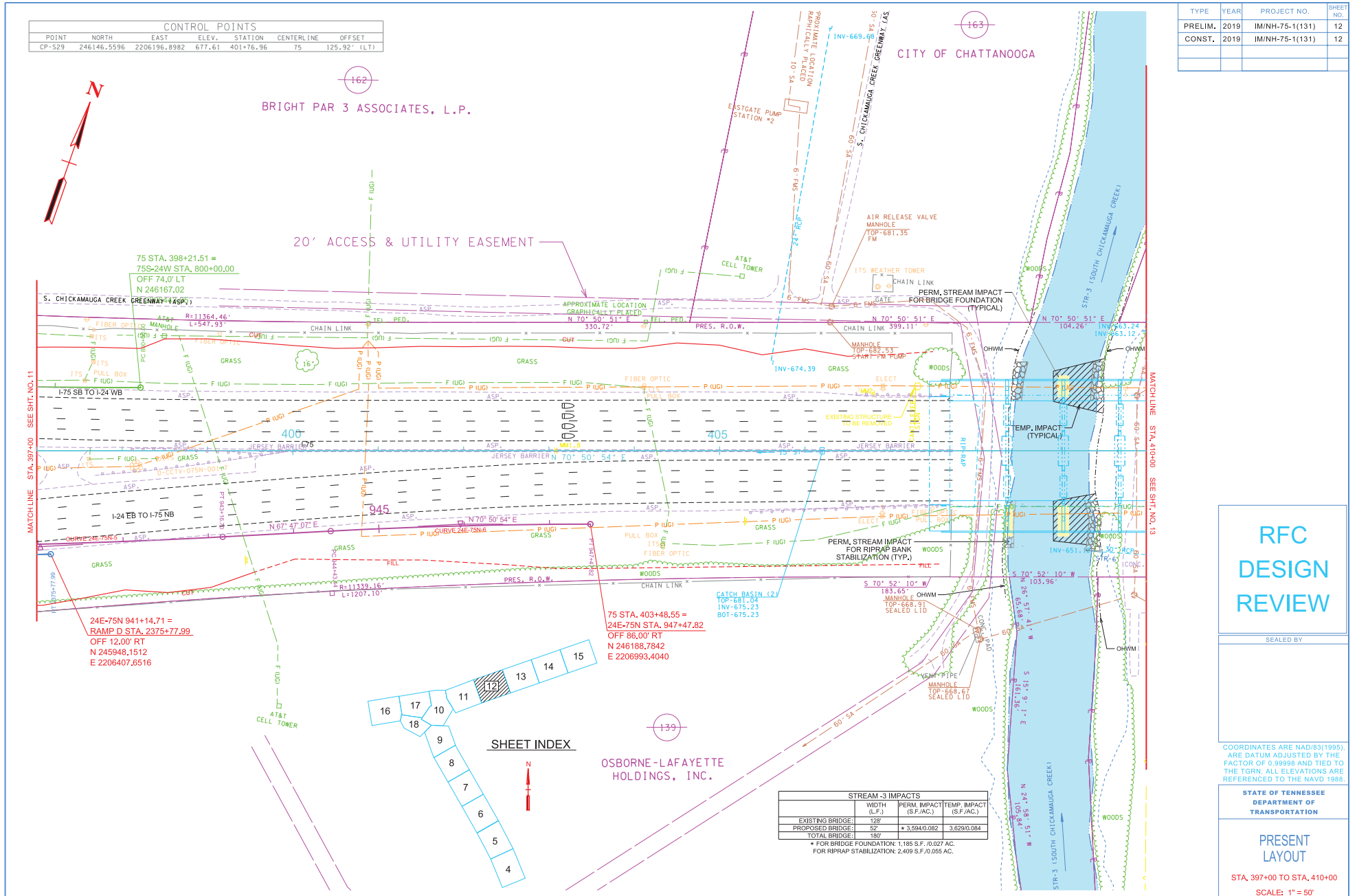
STA. 360+00 TO STA. 372+00
SCALE: 1" = 50'









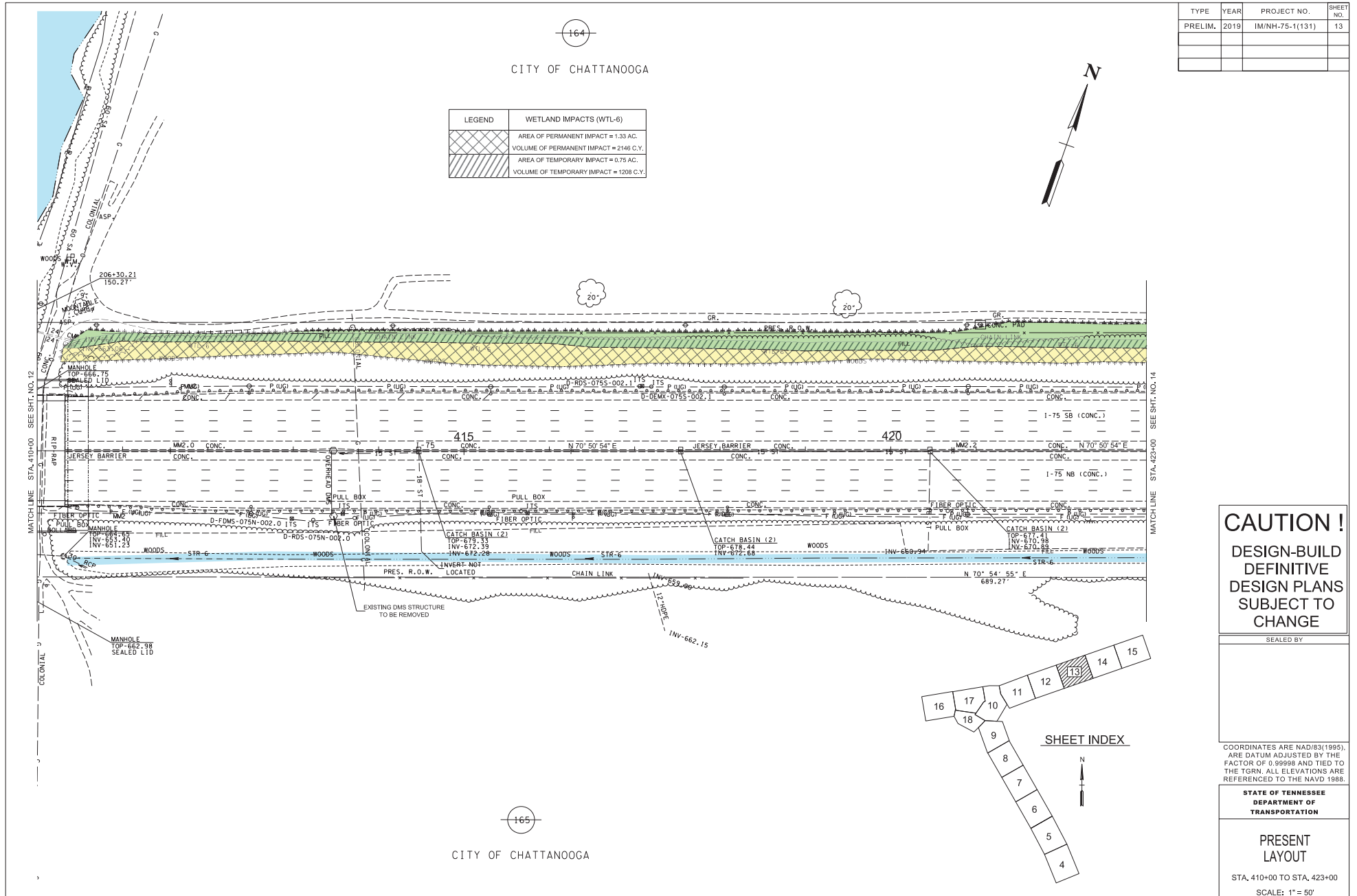


RFC
DESIGN
REVIEW

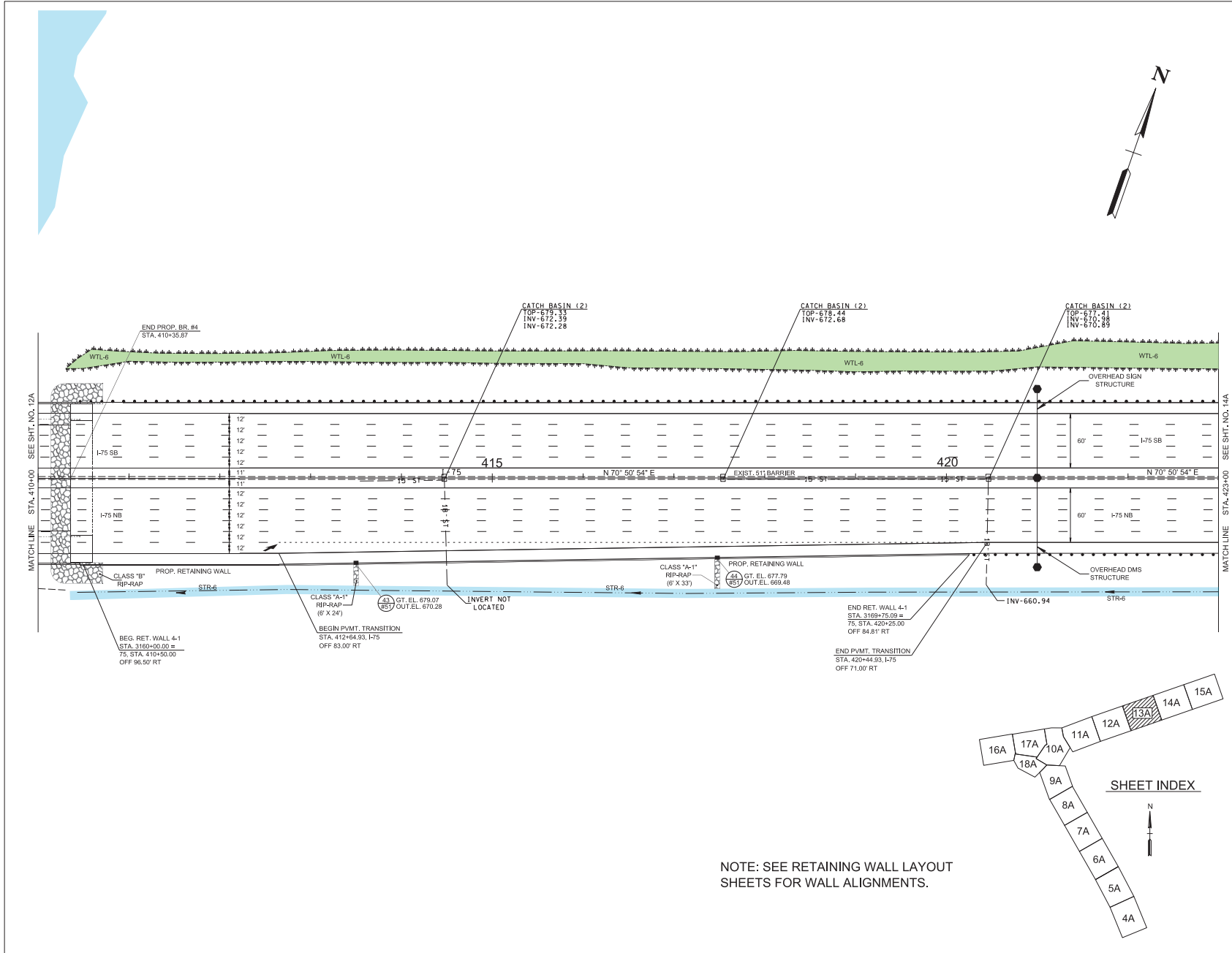
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PROPOSED LAYOUT

SCALE: 1" = 50'



TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIM.	2019	IM/NH-75-1(131)	13A



CAUTION !
DESIGN-BUILD
DEFINITIVE
DESIGN PLANS
SUBJECT TO
CHANGE

SEALED BY

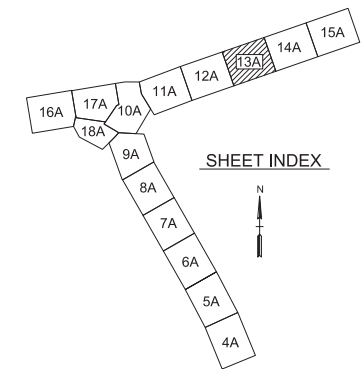
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STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

PROPOSED
LAYOUT

STA. 410+00 TO STA. 423+00

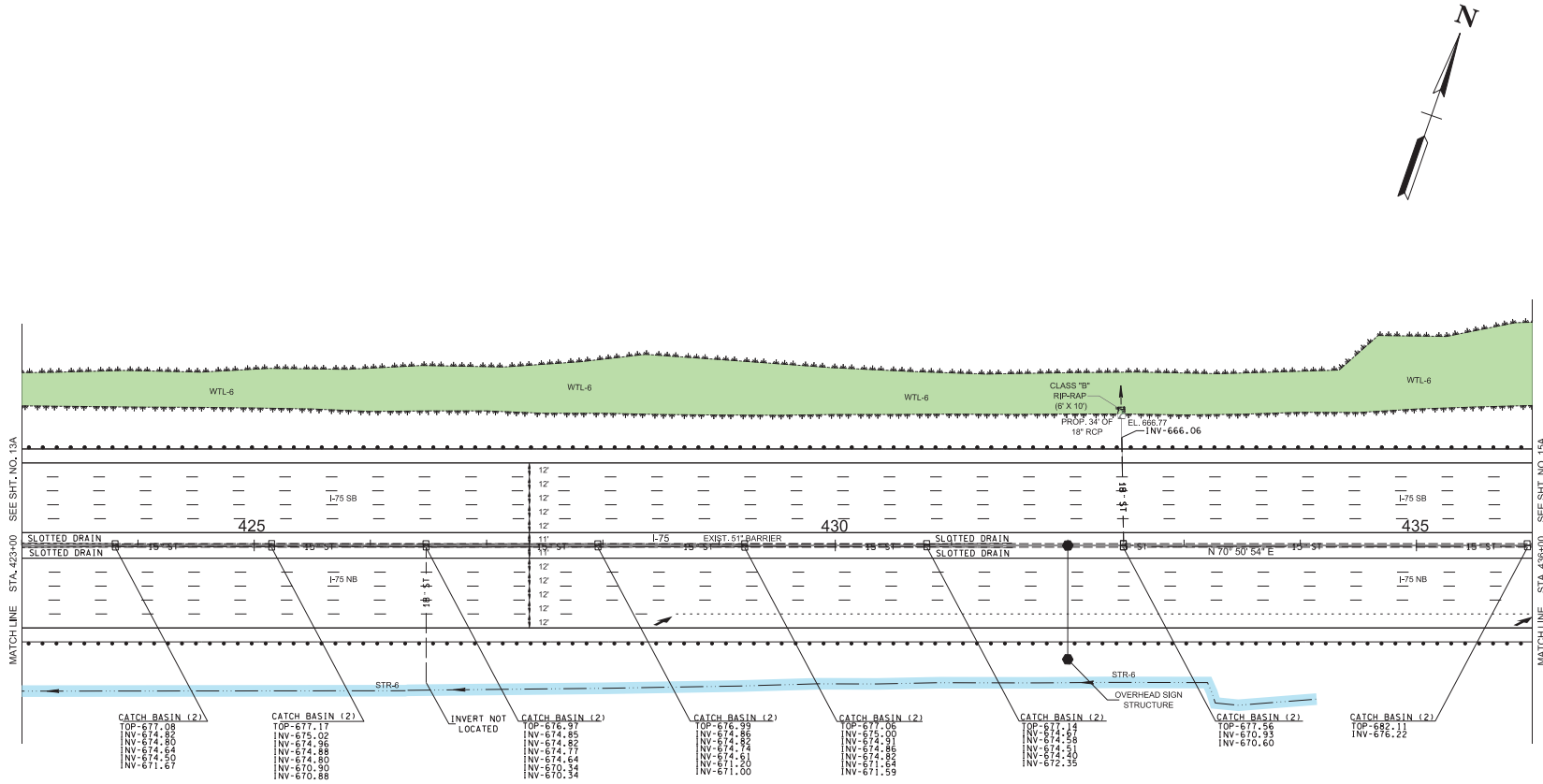
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NOTE: SEE RETAINING WALL LAYOUT
SHEETS FOR WALL ALIGNMENTS.

6/5/2019
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TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIM.	2019	IM/NH-75-1(131)	14A



CAUTION !
DESIGN-BUILD
DEFINITIVE
DESIGN PLANS
SUBJECT TO
CHANGE

SEALED BY

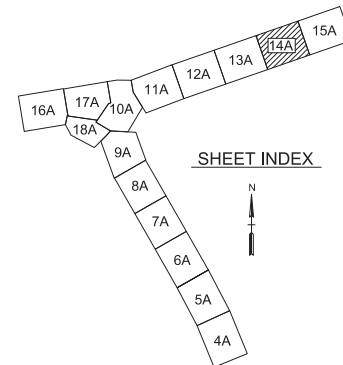
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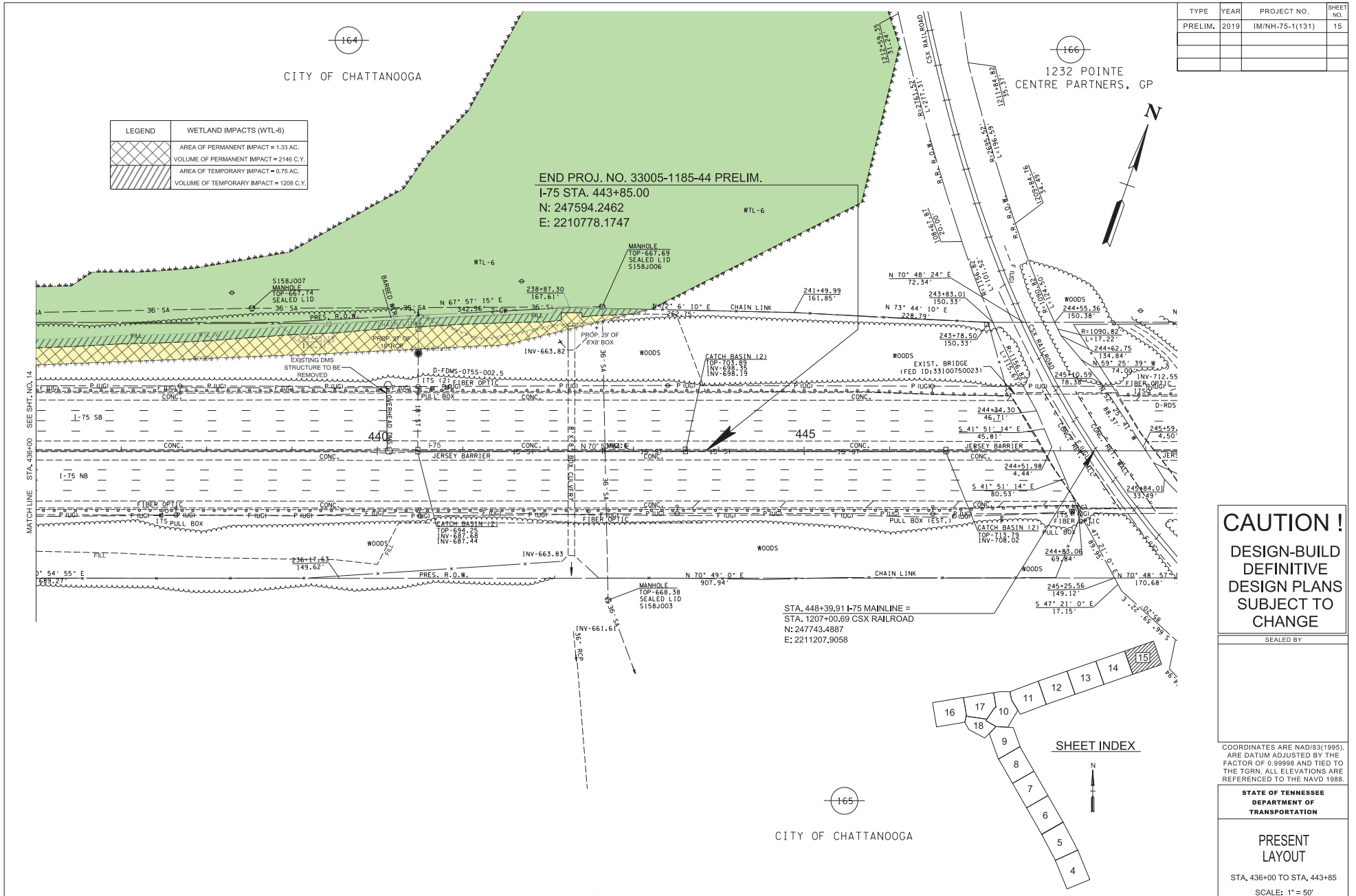
STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

PROPOSED
LAYOUT

STA. 423+00 TO STA. 436+00

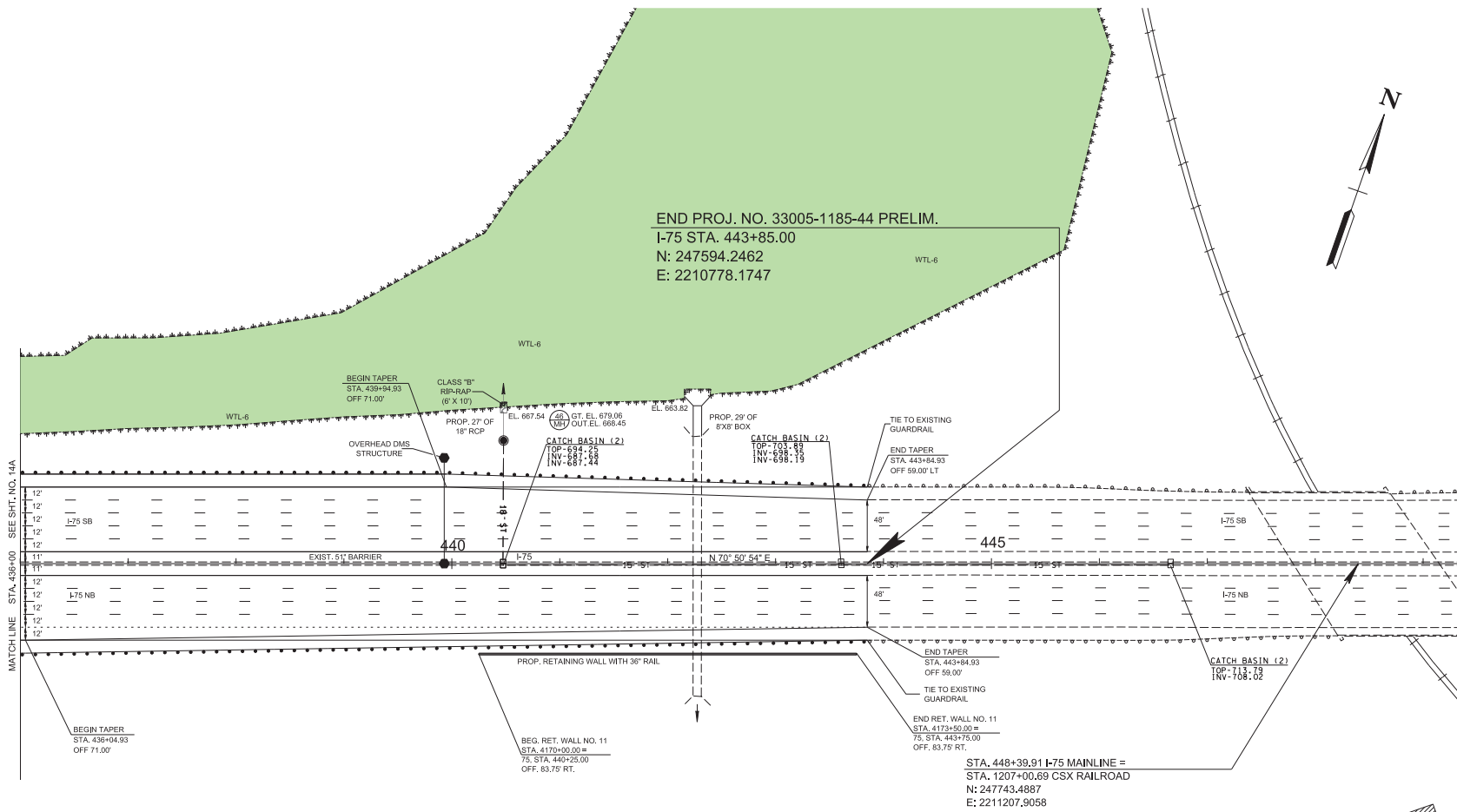
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TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIM.	2019	IM/NH-75-1(131)	15A

END PROJ. NO. 33005-1185-44 PRELIM.
I-75 STA. 443+85.00
N: 247594.2462
E: 2210778.1747



CAUTION !
DESIGN-BUILD
DEFINITIVE
DESIGN PLANS
SUBJECT TO
CHANGE

SEALED BY

COORDINATES ARE NAD(83)(1995).
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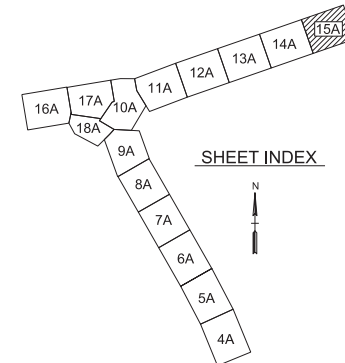
STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

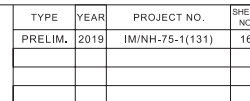
PROPOSED
LAYOUT

STA. 436+00 TO STA. 443+85

SCALE: 1" = 50'

NOTE: SEE RETAINING WALL LAYOUT
SHEETS FOR WALL ALIGNMENTS.





CAUTION !
DESIGN-BUILD
DEFINITIVE
DESIGN PLANS
SUBJECT TO
CHANGE

SEAL'D BY _____

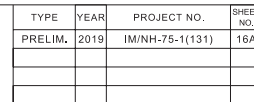
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STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

PRESENT
LAYOUT

END TO STA 824+55

SCALE: 1" = 50'



SHEET INDEX

CAUTION !
DESIGN-BUILD
DEFINITIVE
DESIGN PLANS
SUBJECT TO
CHANGE

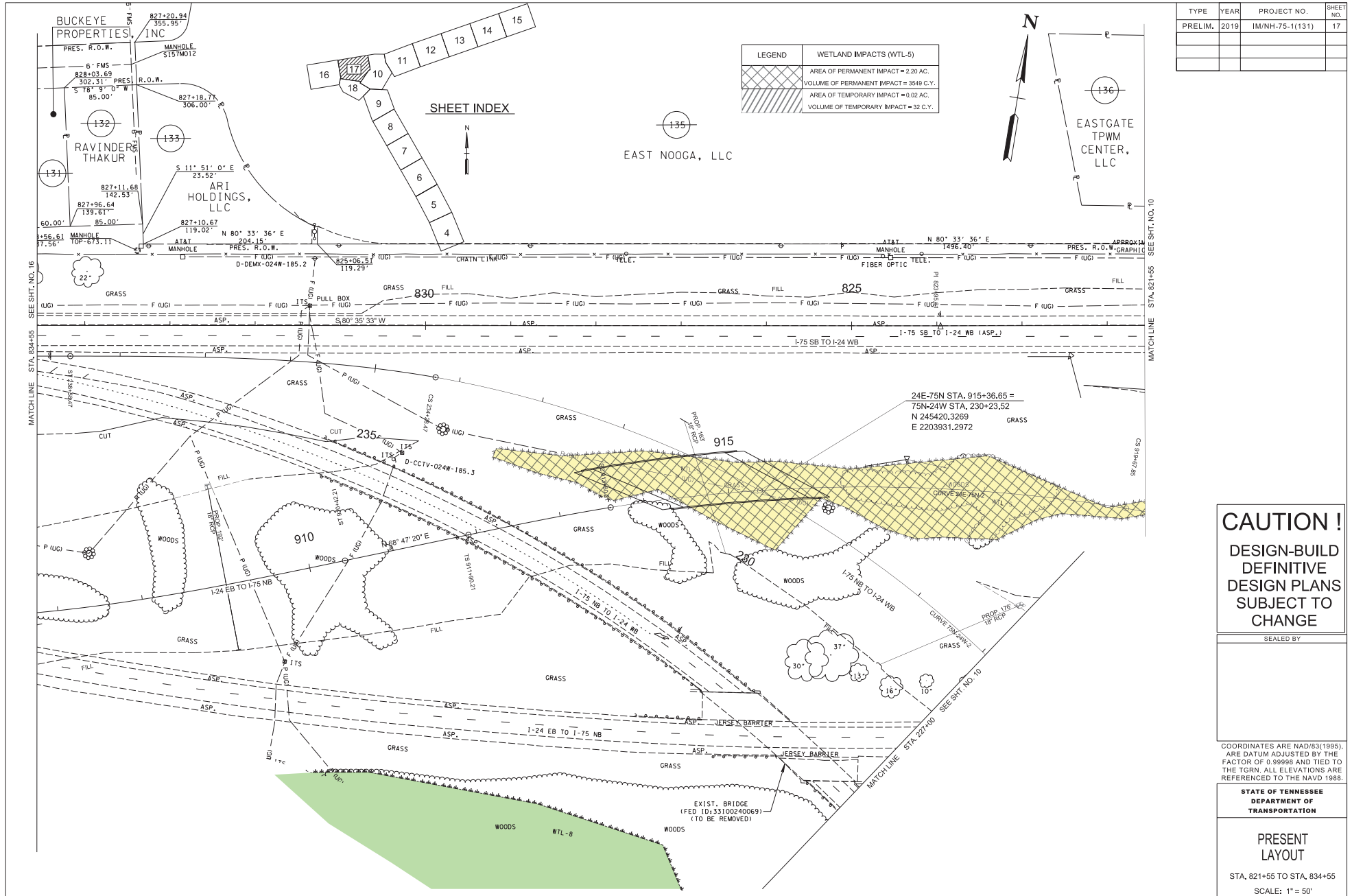
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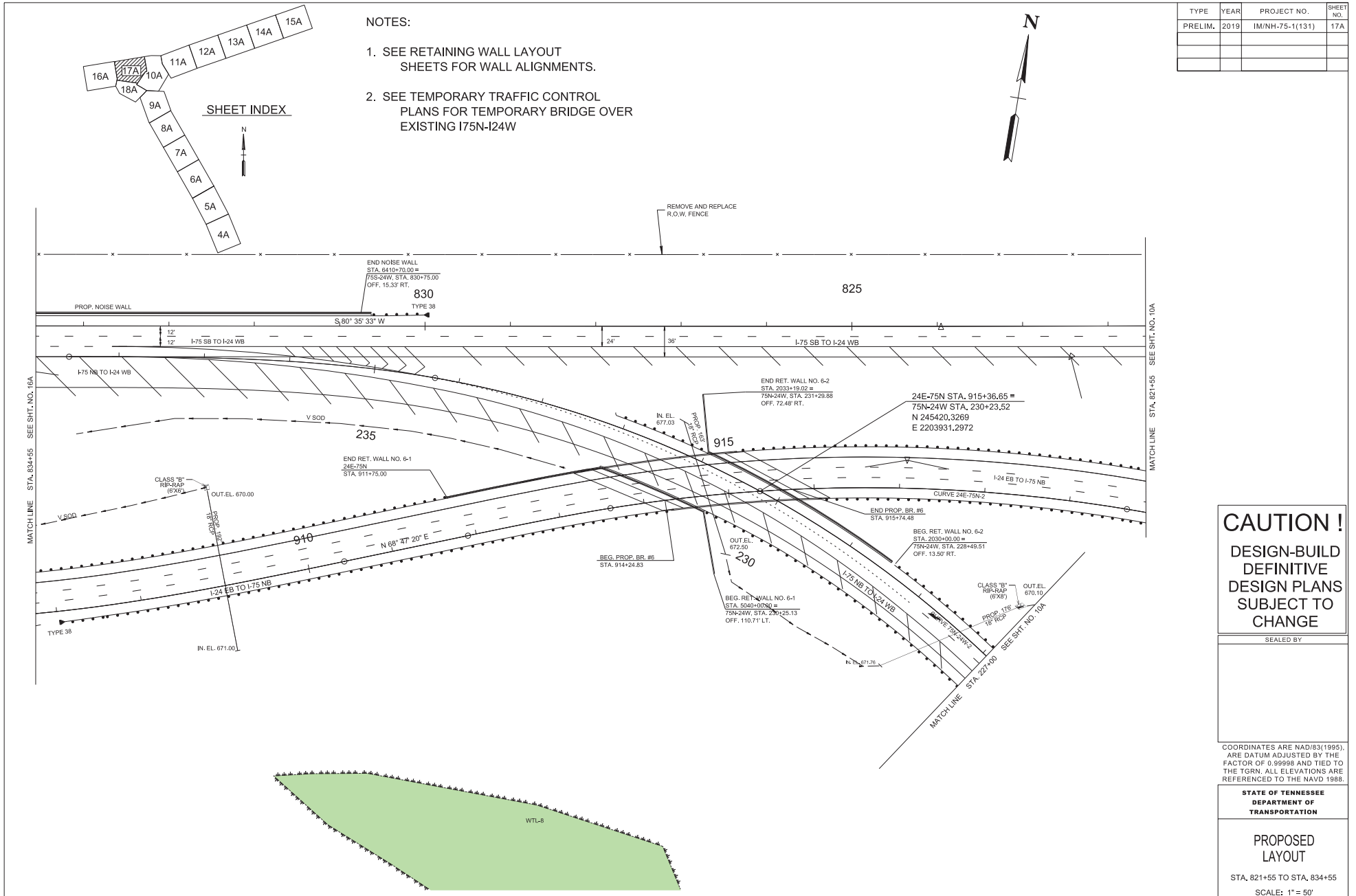
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STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

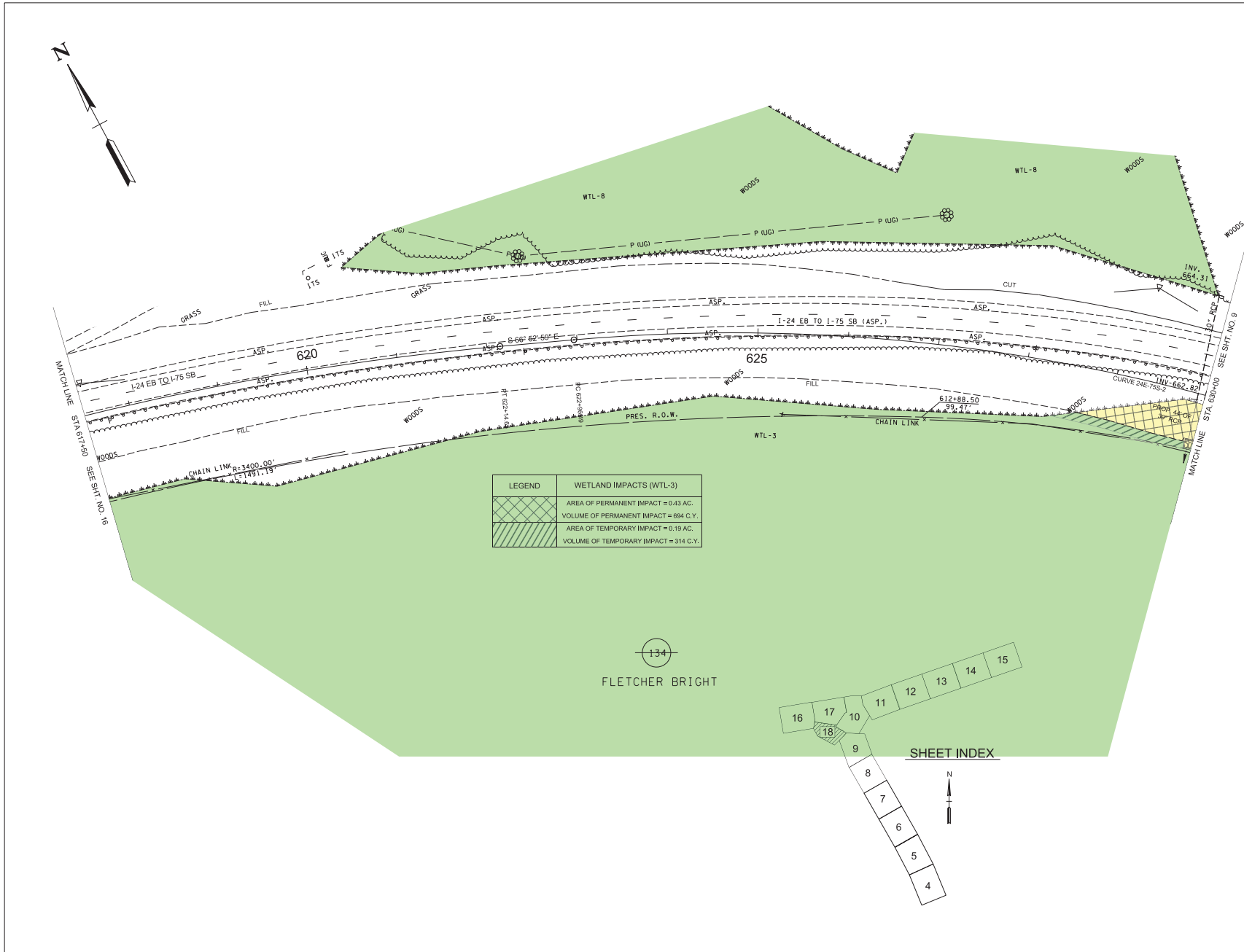
PROPOSED LAYOUT

B.O.P. TO STA. 834+55
SCALE: 1" = 50'





TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIM.	2019	IM/NH-75-1(131)	18



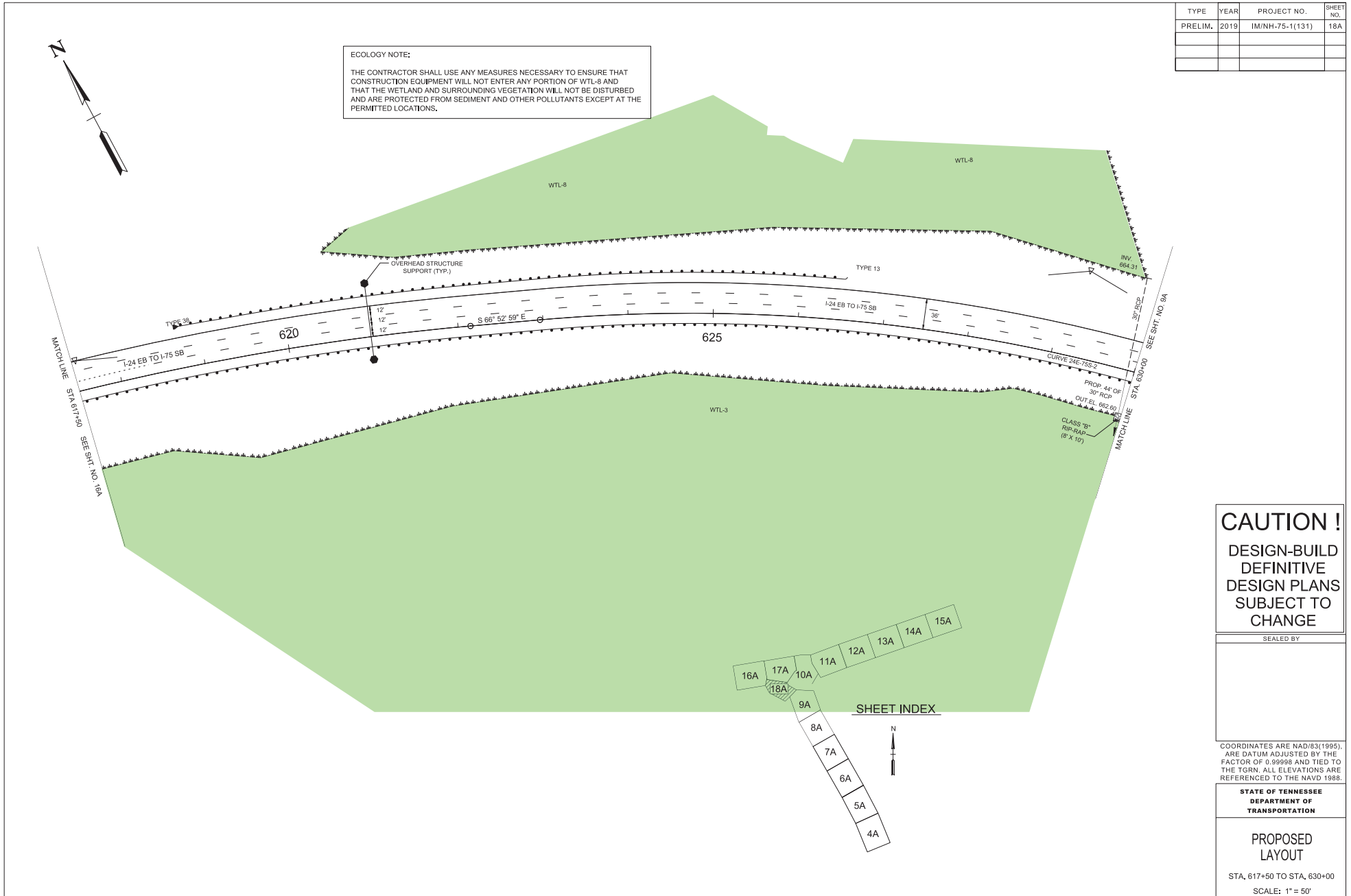
CAUTION !
 DESIGN-BUILD
 DEFINITIVE
 DESIGN PLANS
 SUBJECT TO
 CHANGE

SEALED BY

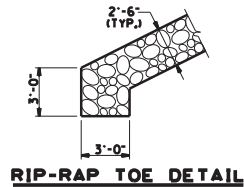
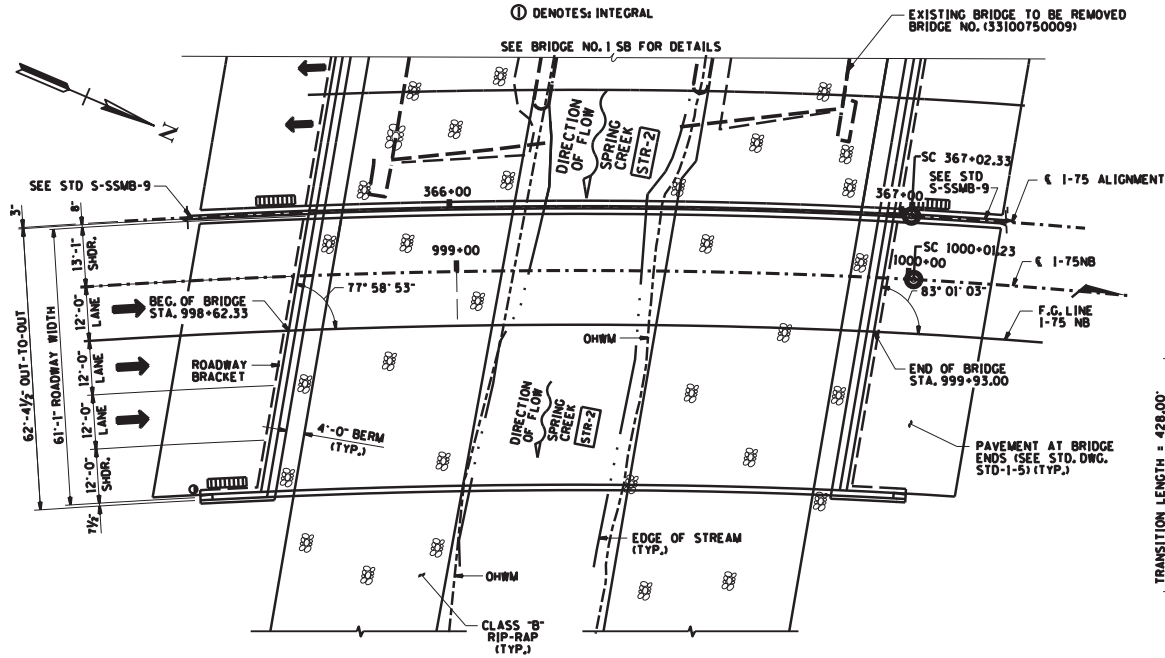
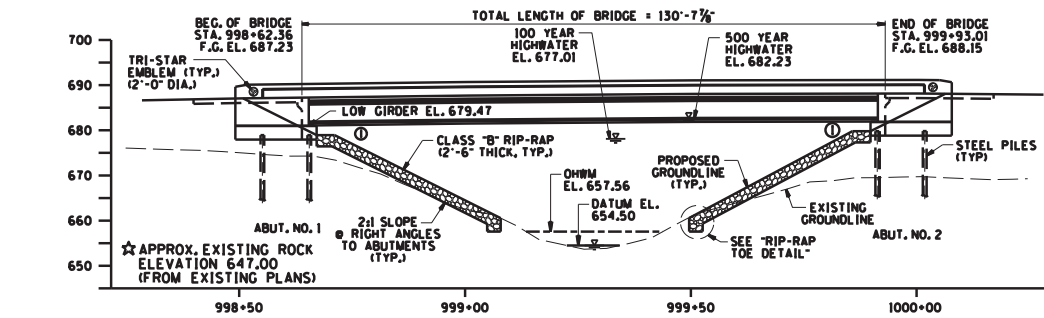
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STATE OF TENNESSEE
 DEPARTMENT OF
 TRANSPORTATION

PRESENT
 LAYOUT
 STA. 617+50 TO STA. 630+00
 SCALE: 1" = 50'



6/5/2019
F:\36\36908\36908000\04_CAD\TRNS\018A.shx



NOTE: ANY WORK WITHIN THE STREAM CHANNEL AREA SHALL BE SEPARATED FROM FLOWING WATER OR CHANNEL AREA FOR DIVERSION OF FLOW (OR EXPECTED FLOW), UNLESS SPECIFIED IN THE PLANS, SHALL BE PAID DIRECTLY BUT SHALL BE INCLUDED IN THE COST OF OTHER ITEMS. THIS NOTE EXCLUDES ANY ITEMS SPECIFIED IN THE PLANS FOR TEMPORARY DIVERSION CHANNELS, EC-STR-31 AND TEMPORARY DIVERSION CULVERTS.

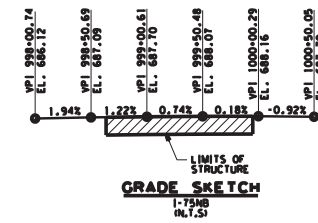
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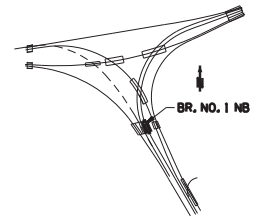
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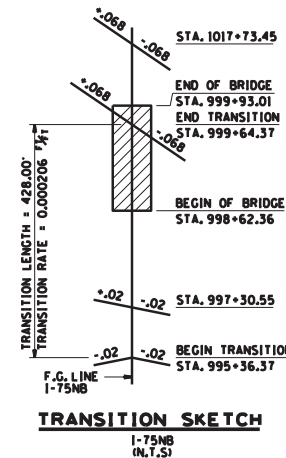


CONST. NO.:

PROJECT NO.		YEAR	SHEET NO.
- -		2019	B-02
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
- -			
- -			
- -			
- -			
- -			

**GENERAL NOTES**

- SPECIFICATIONS: STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION (JANUARY 1, 2015)
- LOADING: HL-93 LIVE LOADING; SEISMIC CATEGORY "B" WITH $A_s = 0.216$, $S_w = 0.414$, $S_u = 0.167$, (1000 YEAR RETURN PERIOD), DEAD LOAD INCLUDE 35 LBS/SO. FT. FOR FUTURE WEARING SURFACE.
- DESIGN SPECIFICATIONS: AASHTO LRFD 8TH EDITION, 2017, AND THE 2011 AASHTO GUIDE SPECIFICATIONS FOR LRFD SEISMIC BRIDGE DESIGN, EDITION 2 (WITH INTERIMS).
- CONCRETE: CLASS "A" F'C = 3000 PSI, BRIDGE DECK CLASS "DS" F'C = 4000 PSI
- REINFORCING STEEL: TO BE ASTM A615 GRADE 60, (EPOXY COAT ALL SLAB STEEL)
- SUPERSTRUCTURE: TO CONSIST OF 1 SPAN OF BULB-TEE 63 BEAMS AND COMPOSITE CONCRETE SLAB.
- USE BRIDGE RAILING STD-1-1SS (RIGHT) AND STD-1-1SS MODIFIED (51") (LEFT).
- END OF BRIDGE DRAIN REQUIRED AT LOCATION SHOWN.
- TEXTURE COATING: TO BE MOUNTAIN GREY (36440) EXCEPT TRAFFIC FACE AND TOP OF PARAPET TO BE OFF WHITE (37886).
- BRIDGE EXCAVATION IS BASED ON FINAL PROFILE AT ABUTMENTS.
- BRIDGE DECK FINISH TO BE IN ACCORDANCE WITH METHOD 3 IN ARTICLE 604.22 OF THE STANDARD SPECIFICATIONS.
- PAVEMENT AT BRIDGE ENDS REQUIRED AT BOTH ENDS OF BRIDGE.

**HYDRAULIC DATA**

DRAINAGE AREA 19.50 SQ MI

DESIGN DISCHARGE (100 YEAR) 10,450 CFS

AREA BELOW 100-YEAR ELEVATION 1,673.68 SQ FT

100-YEAR VELOCITY 6.75 FPS

100 YEAR BRIDGE BACKWATER 1.19 FT @ 677.70

100 YEAR DISCHARGE 10,450 CFS

500-YEAR DISCHARGE 12,450 CFS

ROADWAY OVERTOPPING ELEVATION N/A

•AT UPSTREAM INTERNAL BRIDGE SECTION

••AT UPSTREAM FACE OF BRIDGE 7

CURVE 75N-1

PI 1001+98.90

N 244,309.9767

E 2,204,566.1326

A 18° 19' 04" (RT)

D 4' 40" 24"

R 1,226.00

L 391.96

T 197.67

SE 0.068 FT/FT

DESIGN SPEED 50 MPH

TRANS. LENGTH 428'

2041 ADT (1-75 NB) = 127,360

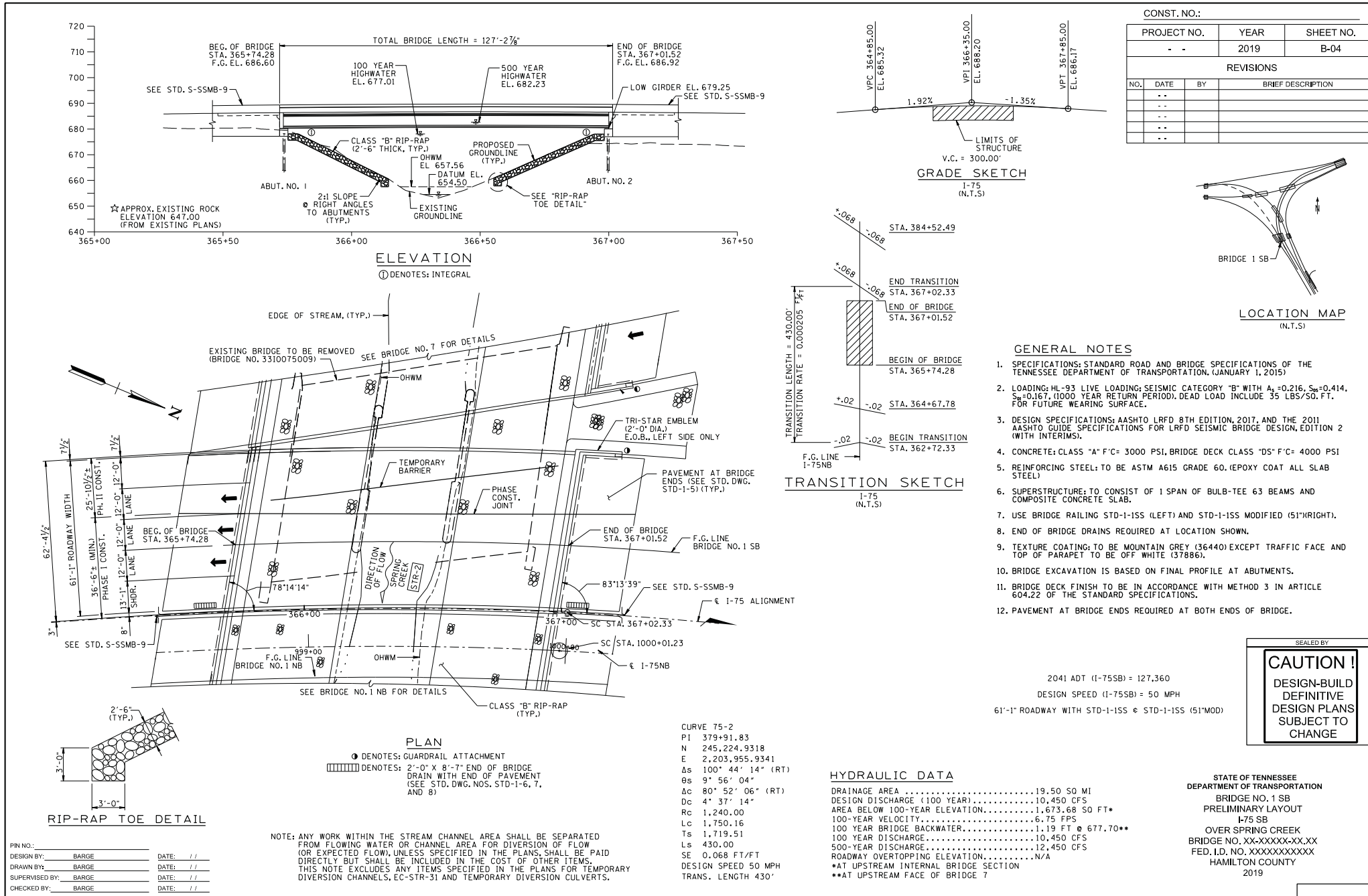
DESIGN SPEED (1-75 NB) = 50 MPH

61'-1" ROADWAY WITH STD-1-1SS & STD-1-1SS (51" MOD)

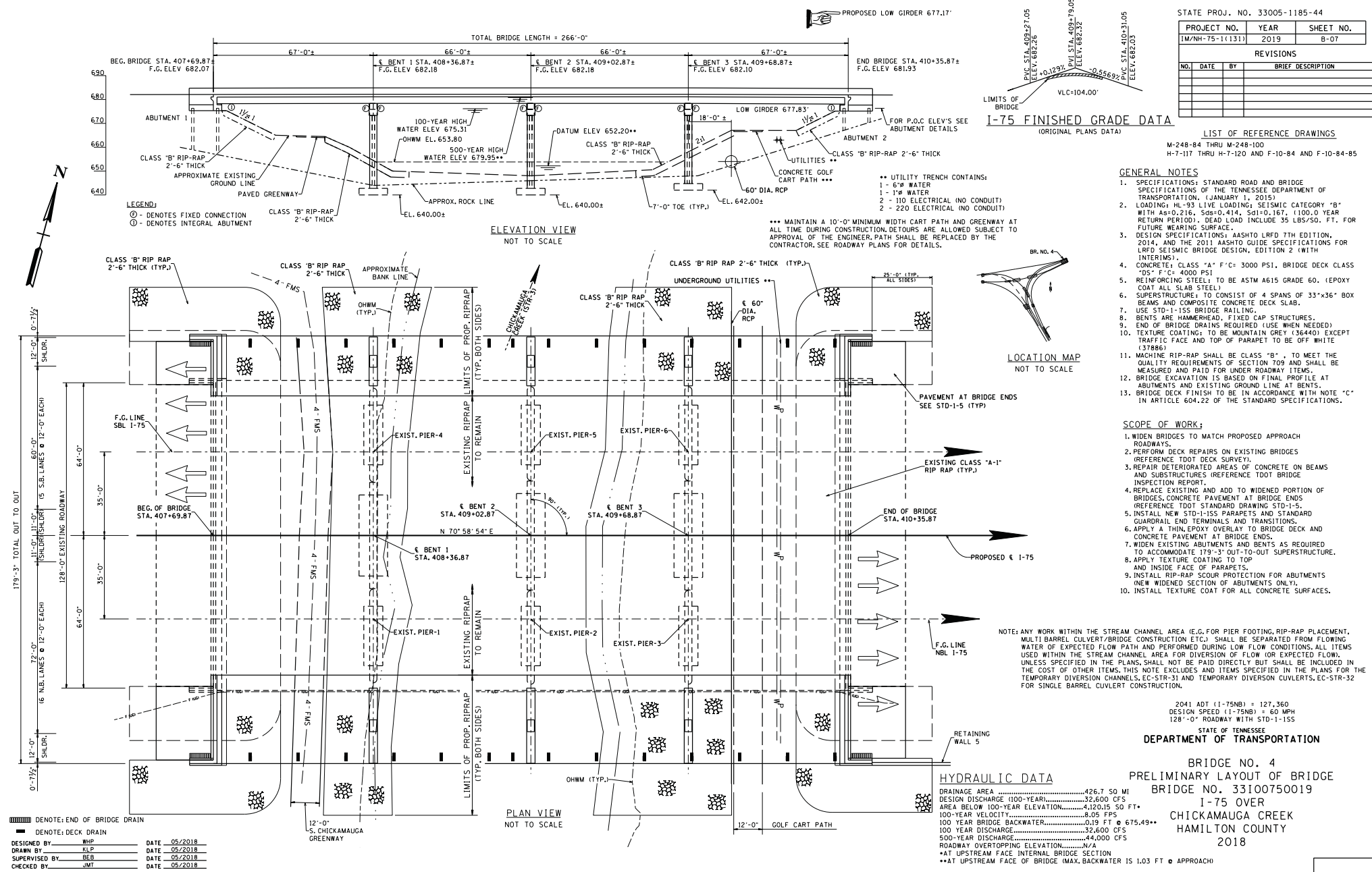
CAUTION

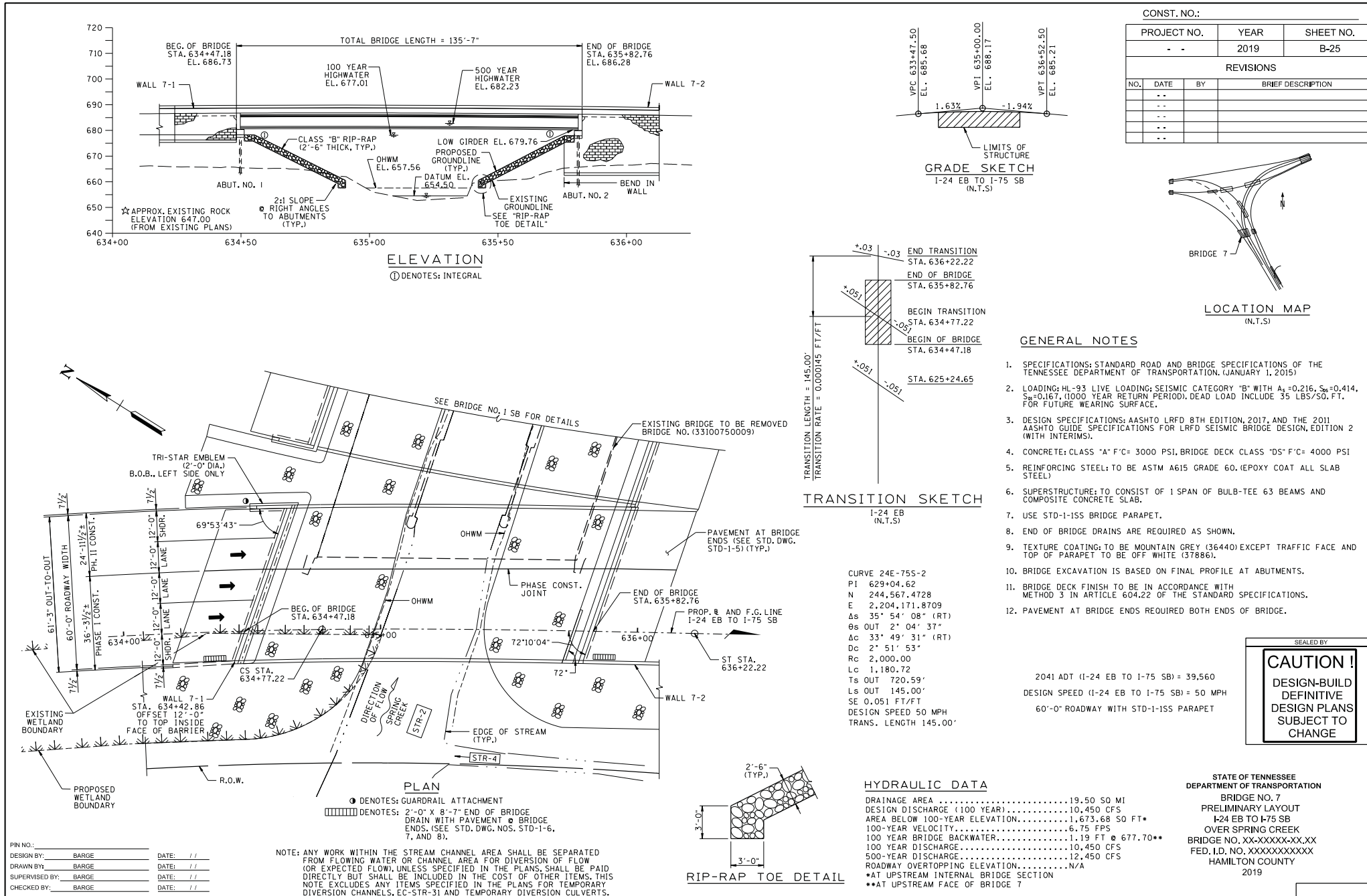
DESIGN-BUILD
DEFINITIVE
DESIGN PLANS
SUBJECT TO
CHANGE

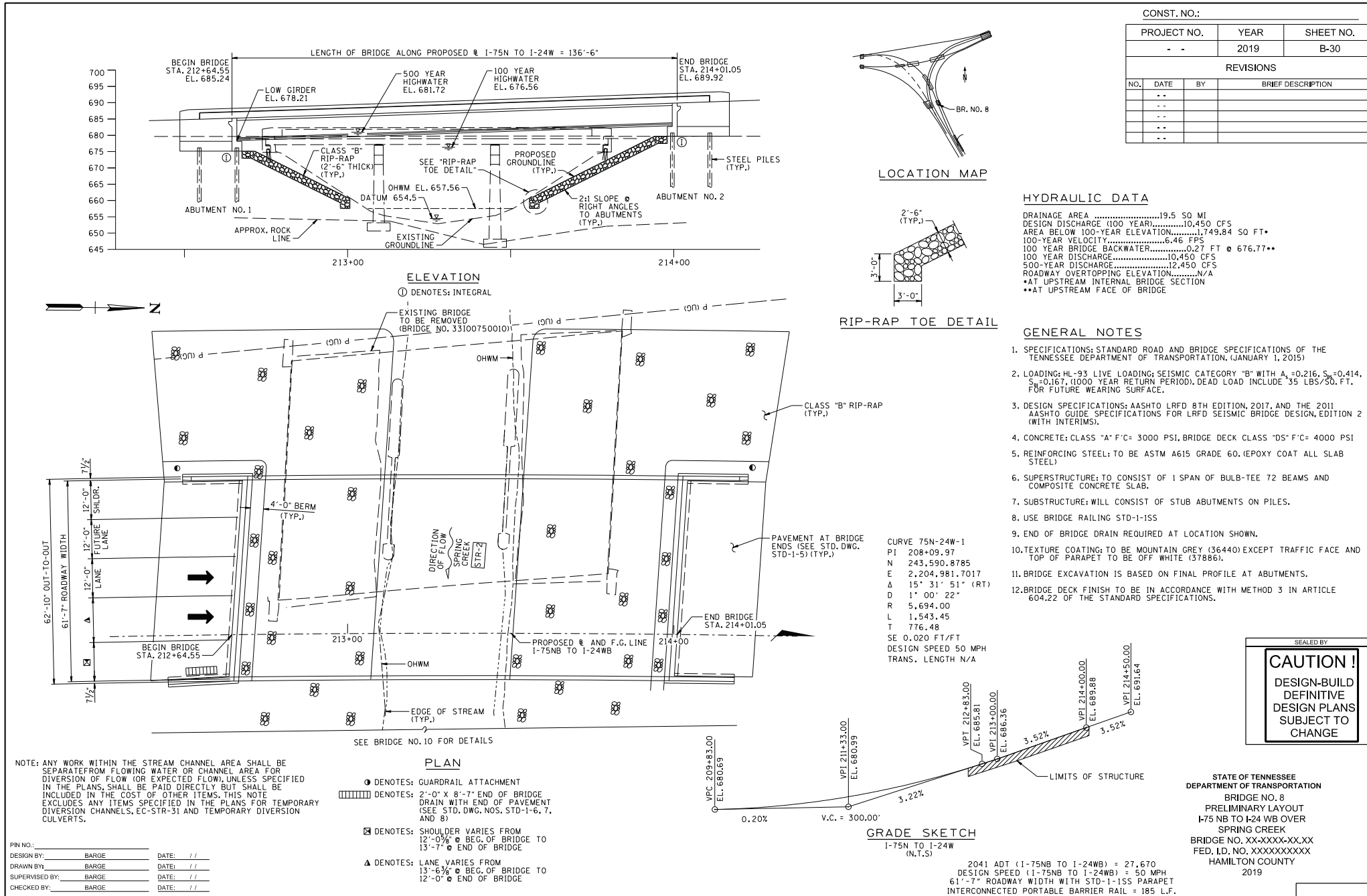
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BRIDGE NO. 1 NB
PRELIMINARY LAYOUT
1-75 NORTHBOUND
OVER SPRING CREEK
BRIDGE NO. XX-XXXX-XX-XX
FED. I.D. NO. XXXXXXXXXX
HAMILTON COUNTY
2019



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 7/10/2019

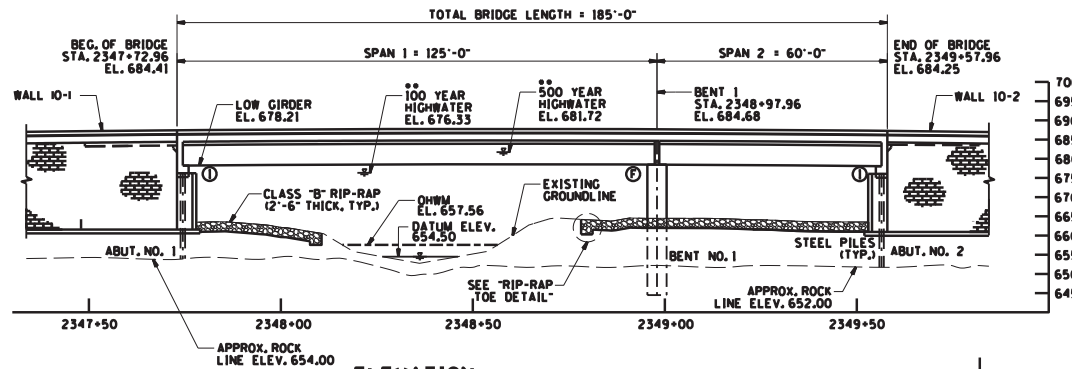
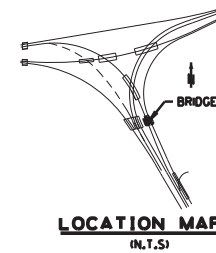




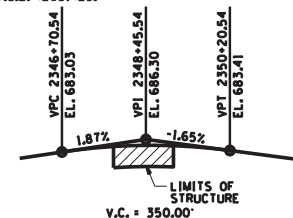
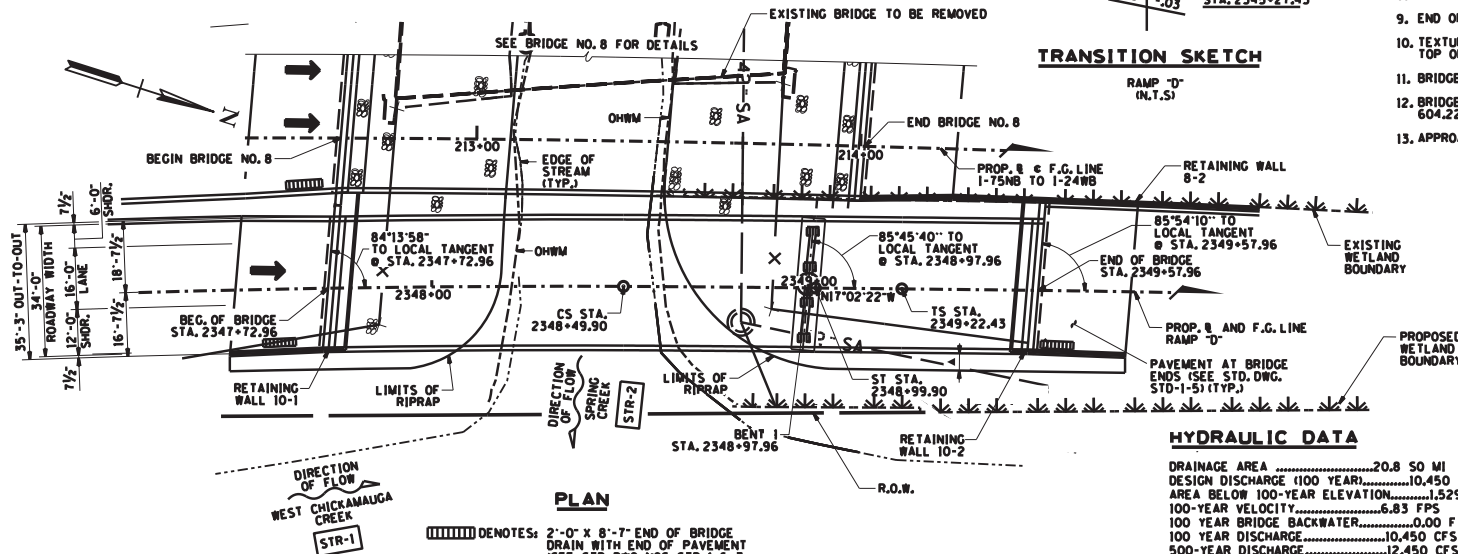
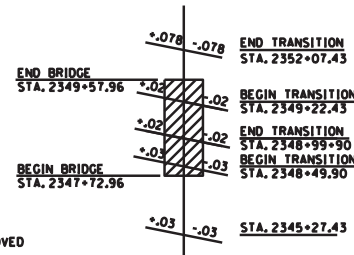
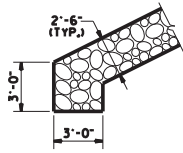


CONST. NO.:

PROJECT NO.		YEAR	SHEET NO.
- -		2019	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
	- -		
	- -		
	- -		
	- -		
	- -		

**GENERAL NOTES**

- SPECIFICATIONS: STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION, (JANUARY 1, 2015)
- LOADING: HL-93 LIVE LOADING; SEISMIC CATEGORY "B" WITH $A_s = 0.216$, $S_{DS} = 0.414$, $S_{D1} = 0.167$, (1000 YEAR RETURN PERIOD); DEAD LOAD INCLUDE 35 LBS/SO. FT. FOR FUTURE WEARING SURFACE.
- DESIGN SPECIFICATIONS: AASHTO LRFD 8TH EDITION, 2017, AND THE 2011 AASHTO GUIDE SPECIFICATIONS FOR LRFD SEISMIC BRIDGE DESIGN, EDITION 2 (WITH INTERIMS).
- CONCRETE: CLASS "A" F'C = 3000 PSI; BRIDGE DECK CLASS "DS" F'C = 4000 PSI
- REINFORCING STEEL: TO BE ASTM A615 GRADE 60, (EPOXY COAT ALL SLAB STEEL)
- SUPERSTRUCTURE: TO CONSIST OF 2 SPAN OF BULB-TEE 63 BEAMS AND COMPOSITE CONCRETE SLAB.
- SUBSTRUCTURE: TO CONSIST OF A HAMMERHEAD PIER ON A DRILLED SHAFT FOUNDATION.
- USE STD-I-155 BRIDGE RAILING.
- END OF BRIDGE DRAINS REQUIRED AT LOCATION SHOWN.
- TEXTURE COATING: TO BE MOUNTAIN GREY (36440) EXCEPT TRAFFIC FACE AND TOP OF PARAPET TO BE OFF WHITE (37886).
- BRIDGE EXCAVATION IS BASED ON FINAL PROFILE AT ABUTMENTS.
- BRIDGE DECK FINISH TO BE IN ACCORDANCE WITH METHOD 3 IN ARTICLE 604.22 OF THE STANDARD SPECIFICATIONS.
- APPROACH P.A.B.E. REQUIRED.

RIP-RAP TOE DETAIL**HYDRAULIC DATA**

DRAINAGE AREA20.8 SQ MI
 DESIGN DISCHARGE (100 YEAR).....10,450 CFS
 AREA BELOW 100-YEAR ELEVATION.....1,529.81 SQ FT
 100-YEAR VELOCITY.....6.83 FPS
 100 YEAR BRIDGE BACKWATER.....0.00 FT @ 676.33±
 100 YEAR DISCHARGE.....10,450 CFS
 500-YEAR DISCHARGE.....12,450 CFS
 ROADWAY OVERTOPPING ELEVATION.....N/A
 *AT UPSTREAM INTERNAL BRIDGE SECTION
 **AT UPSTREAM FACE OF BRIDGE 8 (MAX. BACKWATER IS 0.31 FT @ APPROACH)

2041 ADT (RAMP "D") = 4945
 DESIGN SPEED (RAMP "D") = 50 MPH
 34'-0" ROADWAY WITH STD-I-155 PARAPET

CLASS "B" RIP RAP = XX TONS

CAUTION
 DESIGN-BUILD
 DEFINITIVE
 DESIGN PLANS
 SUBJECT TO
 CHANGE

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
 BRIDGE NO. 10
 LAYOUT OF BRIDGE
 RAMP D
 OVER SPRING CREEK
 BRIDGE NO. XX-XXXX-XX.XX
 FED. I.D. NO. XXXXXXXXXX
 HAMILTON COUNTY
 2019

PIN NO.:
 DESIGN BY: BARGE DATE: / /
 DRAWN BY: BARGE DATE: / /
 SUPERVISED BY: BARGE DATE: / /
 CHECKED BY: BARGE DATE: / /

NOTE: ANY WORK WITHIN THE STREAM CHANNEL AREA SHALL BE SEPARATED FROM FLOWING WATER OR CHANNEL AREA FOR DIVERSION OF FLOW (OR EXPECTED FLOW) UNLESS SPECIFIED IN THE PLANS. SHALL BE PAID DIRECTLY BUT SHALL BE INCLUDED IN THE COST OF OTHER ITEMS. THIS NOTE EXCLUDES ANY ITEMS SPECIFIED IN THE PLANS FOR TEMPORARY DIVERSION CHANNELS, EC-STR-31 AND TEMPORARY DIVERSION CULVERTS.